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CLINICAL MEDICINE

ORIGINAL ARTICLES

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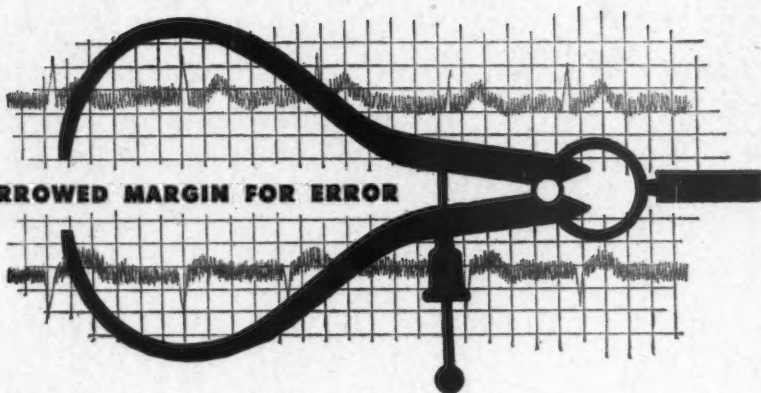
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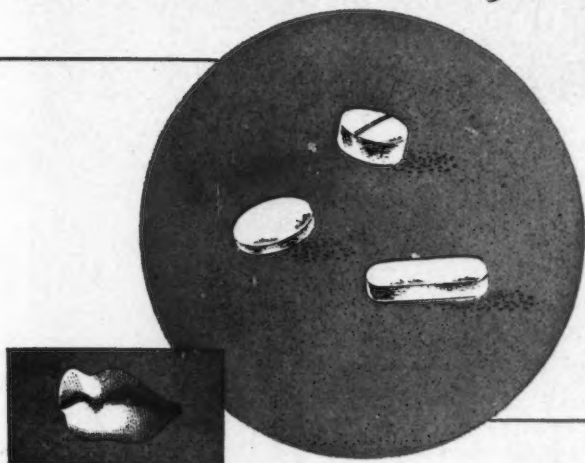
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JANUARY, 1948

Volume 55, No. 1

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3. Chapman, D. W. and Shaffer, C. F.: Arch. Int. Med. 79:449, 1947.

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"I'll bet half an hour's salary the garage fellow hustles off to see a lawyer to see if he can't hold the bank," the assistant prophesied.

"Let him. I don't know anything about the law but we'll take our chances."

But Dr. Medico was safe, as the bank was bound to apply the money according to the patient's instructions.

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of such funds, under the Law of such deposit, could be diverted or applied by the bank," says the Kentucky Court of Appeals in a case on the point.

Whether the garage man could compel the bank to stand by its action in crediting the \$71 to his account is another story.—Judge M.L.H.

Preventing Deconditioning

To the Editor:

Your question is most pertinent; suggestions for the average surgeon are relatively simple but their carrying out—well—there is the difficulty! Chiefly because the average surgeon is too absorbed with the immediate technical result which when attained is apt to end his further interest in the case or because he is not mindful of his complete responsibility to the patient or because good physical therapy service is not immediately available to him and if it is available he may not be sufficiently acquainted with the way in which it can help him.

He knows how rapidly atrophy of disuse (deconditioning) sets in and how long it will take to remedy it once it has started but only too frequently does nothing about it. Why not? Because he has failed to remember his physiology and maybe is a trifle rusty on his path-

(Continued on page 12)



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THE AURICLE SPEAKS

(Continued from page 10)

ology of trauma. That is no valid excuse, however, but a feeble alibi which can less diplomatically be called—not good medicine.

His alertness to impending deconditioning depends entirely on himself and the attention to detail in making his visits. This will take more time on his rounds but will pay dividends in the end. He cannot do it all alone but he should delegate the actual carrying out of therapy to someone on his staff—preferably a good physical therapist, but keep in touch personally with the patient.

The patient should not be just lying in bed softening up all over when only a small percentage of him has been damaged. This must be explained to the patient in order to get his cooperation and the surgeon is the one to start this.

Deconditioning is insidious and rapidly progressive. Therefore, its treatment must be preventive before it is recognizable—in other words it must not be given the opportunity to commence. An

apathetic patient is well started on this downhill course which is so easy to start and also so easy to prevent.

In brief, therefore, in one sentence;

The surgeon must realize his full responsibility to his patient and be familiar with the means at his disposal to prevent deconditioning.—A. WILLIAM REGGIO, M.D., Chairman, Subcommittee on Rehabilitation American College of Surgeons Committee on Fractures and other Traumas.

Germ-Free Animals

To the Editor:

In the animals under question and in most germ-free animals, sources of Vitamin K are supplied. If the animals are reared on normal diets, they cannot be carried successfully for long periods of time and especially through breeding. Some of the work, particularly on the rats, is about to be issued in *Bulletins from the Laboratories of Bacteriology*.

As to your second question concerning the reaction of germ-free animals to the

(Continued on page 14)

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THE AURICLE SPEAKS

(Continued from page 12)

deprivation of outside stimuli, we might, in general, mention to you that because of the absence of immunological experience, these animals are very much underdeveloped with regards to the lymphatic system and particularly the absence of antibodies.

We are now constructing a new building in which several large-scale pieces of apparatus, built for carrying 2,000 rats germ-free and breeding them over generations, will allow the proper investigation of such problems as the studies on the origin of natural antibodies and the reaction of germ-free animals to purified proteins.

I very much appreciate your interest in our work.—JAMES A. REYNERS, Director, Labs. of Bacteriology, University of Notre Dame.

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That he should say; give, give until the patient cries oh! oh!

While the patient is suffering let the physician be firm in his demand.

Let him ask for immediate payment or get security."

Woe to American medicine if our leadership falls into the hands of the modern counterpart of the men of Salerno!—(From article by J. C. McCann, M. D., California Medicine, July 1946.)

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on the lesser curvature of the stomach, one with indurated edges and three perforations, the largest of which was 6-7 mm. in diameter.

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ORIGINAL ARTICLES

Pointers on Amebiasis and Its Complications, Diagnosis and Treatment

PART I*

By DON E. NOLAN, M.D., and HARRY WARSHAWSKY, M.D.

Dayton, Ohio

THE term amebiasis implies an infection with the pathogenic ameba, *endameba histolytica*. Of the five distinct species of amebae known to establish themselves in the gastrointestinal tract of man, four are generally considered harmless saprophytes. Only *endameba histolytica* invades the large intestine of man, penetrating into the tissues of the wall and often causing a characteristic type of chronic ulcerative colitis associated in some cases with clinical symptoms of dysentery. From the intestinal lesions the organisms frequently metastasize through the portal veins to the liver producing either hepatitis or abscess, or to other tissues as the lung, brain, etc.

Amebiasis is undoubtedly a disease of great antiquity, of world wide prevalence, and a surprisigly high incidence in all sections of this country ranging from 10 per cent (Hummel (1), Barr

(2), Craig and Faust (3), to 20 per cent of the total population (Faust (4).

The disparity between the known incidence and the frequency of actual diagnosis is due to (1) the small proportion of patients infected with *endameba histolytica*, who present the classical textbook symptoms of dysentery, tenesmus, bloody stools, and so on; (2) the bizarre symptomatology actually presented is not interpreted as being due to amebiasis; (3) inadequate diagnostic procedures; (4) the erroneous idea that amebiasis is a disease limited largely to the tropics. It is the purpose of this paper to attack this problem which is now of pressing urgency in view of the return of thousands of veterans who have had tropical service.

Transmission to man is usually by the ingestion of water or food contaminated with cysts of *endameba histolytica*. It is most probable that the ingestion of the motile form (trophozoite) is harmless.

* Part II and conclusion of this article to appear in next month's issue.

After ingestion, the cysts undergo "metacystic" development in the intestine giving rise to four small trophozoites. These attach themselves in the crypts of the large intestine. They may penetrate the mucosa and submucosa by means of their motion and the lytic substance they secrete. This process produces small abscesses which rupture into the lumen of the gut to produce ulcers.

The earliest lesions in the intestine are small raised hemorrhagic areas which later lose their surface epithelium. Depending upon the resistance of the patient these abscesses may remain microscopic or enlarge. Often the organisms penetrate the submucosa and extend laterally thus undermining the mucosa and leading to the production of large ulcers. Secondary bacterial infection usually occurs (5). As these lesions are predominately present in the cecum and rectosigmoid, D'Antoni's (6) classification is useful.

1. Asymptomatic amebiasis

Patient not cognizant of symptoms, with lesions not confined to specific areas.

2. Symptomatic amebiasis

- A. Asyndromic (formes frustes)

Mild toxemia and vague gastrointestinal irritation, with lesions usually not confined to specific areas.

- B. Syndromic

Symptoms simulating chronic appendicitis, peptic ulcer, chronic cholecystitis, with lesions usually confined to cecal area.

- C. Dysentery (acute or chronic)

Symptoms of dysentery, with lesions throughout colon, especially rectum and sigmoid.

- D. Hepatitis and Liver Abscess

Fever, pain, tenderness in liver area, with lesions in liver tissue.

- E. Involvement of other organs

Abscess of lung, brain, kidney, amebiasis cutis, and so on.

From the above it may be seen that the key to the diagnosis of amebiasis consists of two parts: (1) To think of the disease (2) To demonstrate cysts or motile forms. Most failures to diagnose amebiasis stem from our "low index of suspicion." *When confronted by a patient with vague gastrointestinal complaints, easy fatigability or bouts of diarrhea*, remember it may be amebiasis. As Craig and Faust (7) have emphasized, "Clinically the various phases of infection with this ameba may be mistaken for other disease conditions, most frequently for bacillary dysentery; mucous colitis and other forms of colitis; carcinoma of the rectum; chronic enteritis; schistosomal and balantidial dysentery; chronic appendicitis; food allergy; gallbladder disease; peptic ulcer; and chronic gastritis. In none of these conditions can a differential diagnosis be made without the demonstration of the ameba in the feces and the diagnosis should never be based upon clinical symptoms alone."

As the clinical picture seldom permits a positive diagnosis of amebiasis we must therefore depend upon identification of motile forms or cysts in stool specimens. It is helpful here to remember that when dealing with formed stools the cyst form predominates. When the stools are soft or liquid, the motile form is usually present. Most physicians shy away from stool examinations; however, the technic is simple and should be a part of every physician's armamentarium.

Let us say the patient complains of diarrhea and amebiasis is suspected. One need only pick up a fleck of mucus from the stool specimen, mix it with a drop of normal saline on a clean microscopic slide, apply a coverglass, and examine it under the microscope. It is of the utmost importance to have a fresh warm specimen as the amebae become sluggish and may die on standing or cooling. It is best to examine the specimen as soon as it is passed.

The motile forms are usually easily seen, they are actively motile, they move by projecting pseudopodia, finger-like or round and blunted and they frequently contain ingested erythrocytes which is a very valuable differential diagnostic sign. *Endameba coli*, a harmless inhabitant of the intestine, may be differentiated from *endameba histolytica* as it usually contains ingested bacteria but no erythrocytes, the pseudopods are granular in appearance instead of being clear ectoplasm as in *Endameba histolytica*, and their locomotion is very sluggish in contrast to the very active movement of *endameba histolytica*.

The Zinc Sulfate Centrifugal Flotation Technique as described by Faust, D'Antoni and Sawitz (8) has been a simple and entirely satisfactory procedure in our hands. For the convenience of the reader, this method is quoted:

1. A fecal suspension is prepared by comminuting one part of the stool specimen in about ten parts of tap water.
2. Approximately 10 cc. of the suspension is strained, through one layer of wet cheese cloth in a small funnel, into a Wassermann tube (13 x 100 mm.—10cc.).
3. This is centrifuged for forty to sixty seconds at about 2,600 RPM. The supernatant fluid is poured off, about 2 cc. of water is added, the sediment is broken up by shaking or tapping, and additional water is added to fill the tube.
4. "3" is repeated until the supernatant fluid is clear (usually 3 or 4 times).
5. The last supernatant fluid is poured off, about 2 cc. of zinc sulfate (U.S.P. granular) solution of a specific gravity of 1.180 (33.3 per cent solution) is added, the sediment is broken up and enough zinc sulfate solution is added to

fill the tube to about one fourth of an inch from the rim.

6. This is centrifuged for sixty seconds at top speed.
7. Several wire loopfuls are removed from the surface film, placed on a clean slide, one drop of D'Antoni's iodine stain is added and the preparation is agitated manually to insure a uniform mixture.
8. A coverglass is applied and the preparation is examined microscopically.

The cysts of *endameba histolytica* are typically spherical and average 12 microns in size. The four nuclei present in mature cysts are visible only after staining with iodine in fresh smears. Large bar-shaped refractile chromatoid bodies with rounded ends may sometimes be seen in unstained cysts and when present they immediately serve to differentiate *endameba histolytica* from cysts of other ameba. Blood cells, bacteria, and ingested crystals are not found in cysts. In the cysts of *endameba histolytica* the chromatin of the nuclei is diffuse, in *endameba coli* it is coarse. In *endameba histolytica* the karyosome is centrally placed, in *endameba coli* it is eccentric. Under the microscope the karyosome is seen as a small light area within the nuclei, in *endameba histolytica* the cytoplasm is finely granular while in *endameba coli* it is coarse and granular. *Endameba histolytica* cysts contain not over four nuclei, in cysts of *endameba coli* as many as eight may be seen. Cysts of *endameba histolytica* are usually only half as large as those of *endameba coli*. The differentiation of *Endolimax nana* is fairly easy as this cyst is of oval outline, the four nuclei present present a characteristic "punched out" appearance. This cyst is about the same size as *endameba histolytica*. For further details as to identification of these cysts and certain other rare forms, reference should be made to any standard text.

Key points in examining stool speci-

mens are (1) to examine microscopically with warm slides as soon as the stool is passed. This is especially important if the patient has loose stools. (2) If the stools are formed and direct smears are not diagnostic, utilize the Zinc Sulfate Flotation Technique. (3) We have had excellent success in securing our specimens through the proctoscope from the edge of ulcers. *Pin point areas which are raised and hemorrhagic should be looked for as they often overlie small amebic abscesses.* A long cotton swab may be used; however, a 1 cc. serological pipette with the tip bent to an angle of 45° and to which has been attached at the other end the bulb of a urethral syringe make a very excellent tool. Gentle suction is used and the aspirated material is ejected onto a microscopic slide. Such specimens frequently swarm with the motile forms. (4) Frequently we have obtained satisfactory material from the eye of a rectal tube which has been inserted deep into the rectum. (5) Where the parasites are principally located in the cecum, a brisk saline cathartic is helpful. (6) Stools admixed with oil or barium are virtually useless for diagnostic purposes. By examining three normally passed stools, a purgative specimen, saline enema specimen and proctoscopic material, a positive diagnosis will be made 90% of the time (9).

Complement fixation tests, culture technics, and skin tests while valuable in the hands of experts have not as yet attained wide usage. They require further refinement and simplification.

Therapy

Many drugs have been used in the treatment of amebiasis. The therapy of certain complications as liver abscess will be discussed in Part II of this paper. At this time only the therapy of intestinal amebiasis will be discussed. This logically divides itself into three parts (1) Symptomatic Amebiasis, (2) Asymptomatic Amebiasis, and (3)

Prophylaxis. For symptomatic amebiasis we use Diodoquin (0.21 gram tablets) 7 to 10 tablets daily for 18 to 21 days. If there is or has been blood in the stools, diarrhea has been present more than once or if a single attack has lasted a month or more, we also give emetine hydrochloride, 60 mgm. intramuscularly daily for the first five days, concomitantly with the diodoquin.

"Patients should be confined to bed while receiving emetine and for a few days thereafter. A course should not be repeated until two weeks have elapsed. Emetine should not be given to patients who have no symptoms or only very mild symptoms or to patients with heart disease. The toxic effects include nausea, vomiting, muscular weakness, neuritis, myocarditis (manifested by increased pulse rate or decreased blood pressure), and prostration. If available, electrocardiograms are helpful in following the toxic action of the drug. If any toxic sign appears, the administration of the drug should be stopped at once" (10).

For asymptomatic amebiasis we use diodoquin alone. We freely admit other forms of therapy may be equally good but our results have been uniformly favorable and toxic reactions few. We have had no experience with prophylaxis; however, Craig (11) states "The drugs which should prove most useful as remedial prophylactics are diodoquin, chiniofon, and carbarsone. Of these, diodoquin should be the drug of choice because of its lesser toxicity."

Summary

Amebiasis is a common disease which masquerades under many diverse manifestations. It is not confined to the tropical regions. The return of thousands of veterans afflicted with this disease is a matter of pressing urgency to physicians charged with maintaining the health of our nation. Its diagnosis is frequently missed due to failure to think of it and the unwillingness of many physicians to do stool examinations. It

is practically impossible to diagnose the disease properly without adequate laboratory procedures which are simple and can be easily mastered by any physician. By so doing much suffering and disability can be corrected in our patients, and great satisfaction in a task well done will accrue to the physician.

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Theory and Treatment of Leg Ulcers

By C. E. WILSON, M.D.

Blytheville, Arkansas

I presume that nearly all general practitioners have treated leg ulcers. I did, for forty years, before I learned to cure them. One thing that I did learn; that applying a medicine would not effect a cure. I began to think about the pathologic changes we were contending with, and realizing that a sore on any part of the body would not heal without proper blood supply, a constant regular bathing with fresh blood, and realizing that that was impossible in a leg with a chronic ulcer, which remained swollen all the time and was inclined to become necrotic and slough, rather than heal.

The lesion is simply a capillary passive congestion or blood stasis, with very little exchange of blood supply and hence no healing.

Treatment

If the ulcer is due to varicosities, treat the varicose veins by injection. If there is any infection in the ulcer, as there usually is, cleanse it thoroughly. Bathe

the leg with alcohol, and powder, leaving an extra amount on the ulcer. Then place a piece of plain gauze on under the leg, extending from bottom of heel to upper margin of the ulcer. Another piece extends from the instep to above the upper margin of the ulcer. If an ordinary size leg, a two inch roller bandage is sufficient; if a large leg, a 3 inch bandage is required.

Begin at instep, bandage smoothly and as tightly as can be done from instep to knee joint. Then take half-inch strips of adhesive and apply from bottom of foot to above the bandage on both sides of the leg, then around leg from instep to the top of the bandage to keep the bandage from loosening.

If there is any infection, the ulcer should be treated every other day until the infection is cleared up, and then every 4 to 7 days. No doubt about a cure, if it is not tuberculous or cancerous.—DR. C. E. WILSON, Blytheville, Ark.

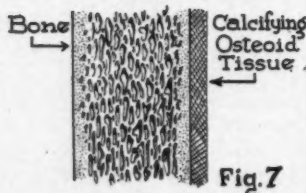
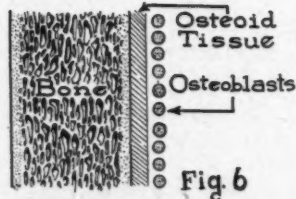
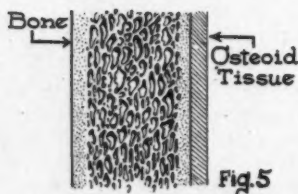
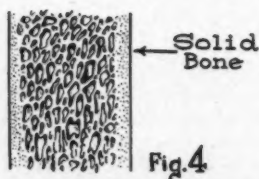
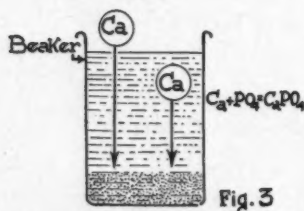
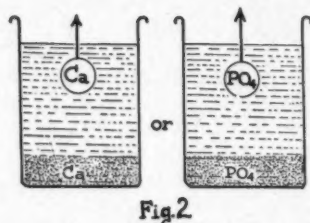
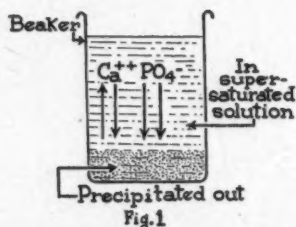
Disorders of Calcium Metabolism*

IN considering the subject of metabolic bone disease, one should take a simple analogy, such as a beaker containing salts of calcium and phosphorus in soluble equilibrium and with salts precipitated out at the bottom (Fig. 1). If a super-saturated solution containing calcium and phosphorus is in a beaker, there will be a balance between the

amount of calcium and phosphorus going into the solution and that precipitating out. If one takes calcium or phosphorus out of the solution, some of the precipitant will dissolve out and permit the calcium and phosphorus in solution to remain in the same concentration (Fig. 2).

If calcium or phosphorus are added, some of the material in the solution will precipitate (Fig. 3). There is a constant relationship between calcium and phos-

* Presented at Tulane University School of Medicine, postgraduate course in Metabolic Diseases, New Orleans, Louisiana.



phorus. Calcium plus phosphorus produces calcium phosphate.

Fig. 4 represents a block of solid bone in which there is no evidence of cellular activity apparent in 99% of the bone (from studies with radioactive material, we know that there is a constant exchange between the bone and the circulating blood). Diagrammatically (Fig. 5), we may consider that 1% of the cells are in activity, with laying down of new bone and destroying of old bone. Osteoid material or matrix material is the form or base for calcification and must be present before a new bone can be laid down.

There are two phases in the formation of new bone. First, there is the laying down of osteoid tissue. Osteoblast cells are present with the osteoid tissue which they help to form. Osteoid tissue is a nitrogenous material (Fig. 6).

The second phase of bone formation includes the calcification of the osteoid tissue and ossification with a deposit of mineral salts.

Fig. 7 represents the calcification of the osteoid tissue and Fig. 8 the opposing process of bone destruction. Cells known as osteoclast or scavenger cells are present during bone destruction. Their precise function is not known.

The interchange of calcium and phosphorus and the formation of calcium phosphate is related to both the construction and destruction of bone.

In the presence of osteoblastic activity, that is, the formation of new bone, much alkaline phosphatase is present. This is an enzyme that works in an alkaline medium; its presence may be disclosed by staining.

Increased osteoblastic activity is diagnosed by increased alkaline phosphatase, both locally and in the blood stream, thus aiding in the diagnosis of metabolic bone diseases.

Metabolic bone disease involves all bones of the skeleton to a greater or lesser extent, as contrasted to Paget's dis-

ease which may leave some normal bone areas.

Classification. A.—Too little bone

1. Too little bone formed due to
 - (1). Inadequate osteoid formation
 - (2). Inadequate calcification
2. Too much bone destroyed.

Osteomalacia

Osteomalacia, an uncommon disease in the United States, but very common in China, is due to a deficiency of calcium, phosphorus and Vitamin D or both. It is really an adult form of rickets. It may be brought on by pregnancy and an inadequate intake of Vitamin D, calcium, and phosphorus. There may be a low blood calcium and normal blood phosphorus, a normal calcium with low phosphorus, or a low calcium and low phosphorus, which result in a circulating level of calcium and phosphorus inadequate for calcification.

There is much osteoid tissue (Fig. 9) but little calcification. The X-ray reveals thin bones with wide epiphyseal lines. Both calcium and phosphorus are low in regard to blood levels. There is an elevated alkaline phosphatase. Why is there more activity of the osteoblastic tissue? Stress and strain of activities stimulate osteoblastic activity. The bone is thin and increased stress is more effective in stimulating it. Fractures may occur much more readily. The elevated alkaline phosphatase occurs both in the blood stream and locally.

Osteoporosis

Osteoporosis is a common disease. The defect here is in the laying down of the matrix for osteoid tissue. There are few osteoblasts (Fig. 10) and little osteoid tissue. Blood Calcium and phosphorus are normal. The alkaline phosphatase is low or normal. Stresses are present, but the body does not respond with osteoblastic activity.

This condition is seen, especially commonly, in old age; that is, over six-

ty years of age. Metabolic osteoporosis occurs without osteoblastic activity. *One should look for fracture of the lumbar vertebra following on very minor trauma.* The vertebra, on x-ray examination, may be of the "fist" type. In such cases, one may even see a hernia into the vertebra itself, (Fig. 11) because the intervertebral disc is stronger than the bone. Osteoporosis of old age may be a part of the aging process.

Disuse may cause osteoporosis at any age. When a leg is placed in a cast, osteoporosis follows regularly; if the patient is kept in bed, both legs become thinner as there is a decrease in stress and strain.

Treatment

Activity will furnish stresses and strains and will cure the osteoporosis in this type of patient. If there is marked decalcification after a fracture, the bone destruction goes on, but bone formation ceases. In such cases, calcium and phosphorus are returned to the site of new bone formation. During the immobilization, the increased calcium and phosphorus in the urine and because the urine is alkaline, result in the formation of kidney stones. Stones are a complication of patients who must be immobilized over a period of time.

It is a common error to have such patients given calcium salts, vitamin D, and milk. There is no use for this treatment because there is no lack of phosphorus, calcium or vitamin D, but there is no matrix which will hold the added mineral. All that will happen will be

that the minerals will be added to the urinary tract and will result in increased formation, or the tendency to formation, of kidney stones. *Early mobilization is the best treatment for the osteoporosis of disuse.*

Estrogenic Therapy

Menopausal osteoporosis: Osteoporosis may occur in relatively young women (between the ages of 30 and 40) who are undergoing the menopause; this is especially true of surgical or radiotherapeutic menopause. This finding may be correlated with that in experimental animals, where the female stores calcium and phosphorus in the bone marrow during the period of egg laying. Following castration, the bones become thin. If estrogen is given, the bones become large and heavy.

Female patients treated with estrogen have a decreased calcium output, retention of phosphorus and a positive calcium balance. After continuous estrogen therapy, the patients feel better and pain is decreased, especially in patients with fractured spines. There is no change in the x-ray of the bones, as it should be remembered that 40 percent of bone salts must be dissolved out before there is a change on the x-ray film.

Also associated with endocrine disorders are acromegaly and Cushing's disease, both of which may result in osteoporosis.

Androgenic Therapy

The use of male sex hormone (testos-

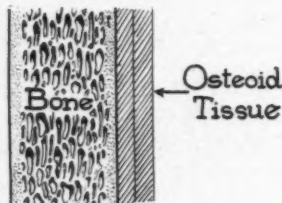


Fig. 9

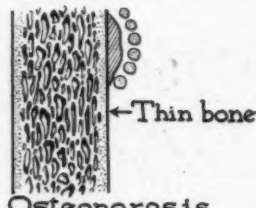


Fig. 10

terone) tends to calcium retention, nitrogen and sulphur retention, develops genital and muscle tissue, and stimulates body metabolism.

Too Much Bone Destroyed

Osteitis fibrosa generalisata: A general thinning of the bone and replacement with vascular tissue due to hyperparathyroidism. This must be differentiated from local conditions, such as a bone cyst.

Disorders of Calcium Metabolism 4b

The bones are thin, due to increasing stress and to increasing disturbance of the calcium and phosphorus blood levels. Fibrous and cystic changes take place.

Effect of parathyroid hormone: Parathyroid extract injections or the presence of a tumor of the parathyroid glands will result in

Blood levels	Urinary Output
Calcium \uparrow	Calcium \uparrow
Phosphorus \downarrow	Phosphorus \uparrow

The first effect of parathyroid hormone is on the phosphorus excretion from the kidney. The kidney tubule permits the increased excretion of phosphorus, which is not resorbed, thus resulting in increased phosphorus output in the urine.

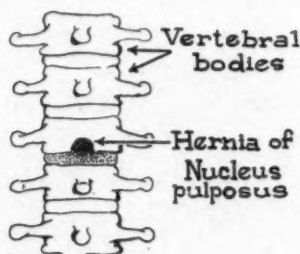


Fig.11

The increased loss of phosphorus results in 2. a lowering of the blood phosphorus, 3. an undersaturation of phosphorus in the body and resultant giving up of calcium and phosphorus salts from the bones (both salts move together), and 4. rapid excretion of the phosphorus and increasing calcium in blood and urine.

Hypoparathyroidism: If the parathyroid glands are removed from man or animal, the reverse changes occur:

Blood	Urine
Calcium \downarrow	Calcium \downarrow
Phosphorus \uparrow	Phosphorus \downarrow (very small amounts)

There is: 1. A decreased phosphorus excretion in the urine, 2. An increased phosphorus level in the blood which causes both calcium and phosphorus to be returned to the bones, 3. a decreased blood calcium and 4. the resultant decreased calcium output in the urine.

Parathyroid extract affects the kidney, chiefly, and bones. Its use results in increasing blood serum calcium and decreasing serum phosphorus.

Hyperparathyroidism

Hyperparathyroidism, such as occurs when a tumor of the parathyroid glands is present, will not cause bone disease if the patient drinks 1 quart of milk daily. The milk furnishes sufficient phosphorus to maintain the blood

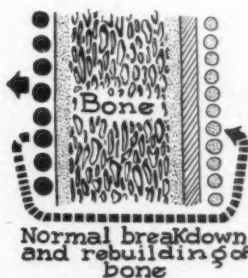


Fig.12

phosphorus without drawing on the bones. Bone disease does occur in patients who do not obtain sufficient calcium. It must be remembered that milk drinkers have a tendency to stone formation.

The most common cause of hyperparathyroidism is a tumor of the parathyroid glands.

Diagnosis: The diagnosis of hyperparathyroidism is made by observing its complications.

Renal stones have been found in 80 percent of cases studied. The diagnosis is usually considered when bilateral stones are present or when recurrent stones appear. *There is a reason for all kidney stones*, although we do not know the etiology in many cases as yet.

Blood studies show a high level of calcium and a low level of phosphorus. Both calcium and phosphorus are increased in the urine.

Calcium phosphate will be taken from the bones to keep the blood at the same level. Bone disease occurs, the thin bones being due to excessive breakdown and rapid bone formation. One must watch for pathologic fractures, including collapse of the vertebral column.

Treatment: X-ray treatment or the administration of calcium are ineffective; calcium will injure the kidneys. Surgical removal is the only method of cure. The surgeon must have special experience, as these small glands are hard to find in the substance of the thyroid, around the trachea, or in the anterior mediastinum.

Hypoparathyroidism

Hypoparathyroidism is not an uncommon disease. It occurs chiefly following thyroidectomy with inadvertent removal of the parathyroid glands.

The blood calcium is low and phosphorus is elevated. The decreased blood calcium leads to increased nervous irritability, pain of a tetanic nature, a feeling of "losing one's mind" and for-

mication (sensation of something crawling on the skin). Coma and convulsions may occur. The Chvostek sign appears as a sudden spasm on tapping one side of the face in front of the ear. Trousseau's sign is positive: On tightening a tourniquet around the upper arm, the hand and wrist become spasmodically set in the "obstetrician's hand."

Such patients are often misdiagnosed as epilepsy, brain tumor or psychosis.

Tetany can occur due to alkalosis or to low blood calcium. The differential diagnosis may be aided by adding Sulkowitch's reagent (2.5 Gm. oxalic acid, 2.5 Gm. ammonium oxalate, 5 Gm. glacial acetic acid and 150 cc. water) to the patient's urine. A cloudy precipitate (calcium oxalate) forms if calcium is present. The presence of much calcium in the urine indicates the presence of a high blood calcium.

This test may be used on kidney stone patients. No milk or cheese should be given for several days preceding the test, as they will cause calcium to appear in the urine. Sulkowitch's test will indicate if there is a high output of calcium in the urine.

Do not forget an irreversible complication of hypoparathyroidism—cataract formation.

Treatment

The intravenous injection of calcium gluconate or calcium chloride will immediately relieve the tetanic spasm and pain, the nervous irritability and convulsions due to low blood calcium in hyperparathyroidism, infantile tetany or alkalosis.

Parathyroid extract is an animal protein derivative, whose injection results in the formation of antibodies. After a few weeks, such therapy is, therefore, useless. It is transient, although quick in action, so it must be given by injection every 8 to 12 hours. It is expensive and it "burns" on injection because it is acid in nature.

It may be used immediately after operation. Symptoms of hypoparathyroidism usually occur within 24 hours after removal of the thyroid and parathyroid glands; or at least before the patient goes home. There may be a return of function of the parathyroid glands, if they have been traumatized, but not, of course, if removed. Calcium gluconate may be given intravenously or intramuscularly for such immediate use. Calcium chloride may be given intravenously only. It is a more effective calcium salt as it contains more calcium and is acid, but a slough occurs if there is any spill of the solution outside the vein.

Dihydrotachysterol produced by Winthrop as Hytackerol, is a synthetic vitamin D simulating substance.

Parathyroid extract has no effect on calcium absorption, but increases the excretion of phosphorus in the urine very markedly. Dihydrotachysterol slightly increases calcium absorption and markedly increases phosphorus elimination in the urine. Vitamin D causes marked increase in calcium absorption, and possibly a slight increase in phosphorus excretion in the urine. We wish to elevate the calcium and drop the phosphorus so dihydrotachysterol is the most effective agent available.

Calcium should also be given in the form of calcium gluconate, lactate, or chloride, in doses of 1 teaspoon 4 times daily. Calcium chloride may be

given in 25% solution with peppermint water in doses of one-half ounce four times daily, to disguise its bad taste.

Do not give milk because of its high phosphorus content. One is trying to avoid increase of phosphorus in the blood stream. Milk should also not be used as a vehicle for the calcium.

Vitamin D. One should saturate the patient's system with vitamin D, in doses of 500,000 units daily. There is no danger of poisoning or kidney damage because of the low blood calcium. This massive dose of vitamin D may be continued until calcium reaches the proper blood level. A dose of 250 to 300,000 units may be given daily with calcium.

Thyroid extract may help to metabolize the calcium and if given with calcium chloride will raise the blood calcium level. It also helps myxedema, if present, following the operative removal of the thyroid gland.

Dihydrotachysterol may be given in 10 cc. daily doses at first, later decreasing the size of the dose until the maintenance dosage is obtained, such as 1 cc. three times weekly. One should be careful to avoid cataract formation.

Every time one sees a thyroid scar and cataracts, or cataract lenses, one should think of hypoparathyroidism. This condition and its complication are often overlooked.

In regard to cost, the cost of massive doses of vitamin D, and dihydrotachysterol are the same.

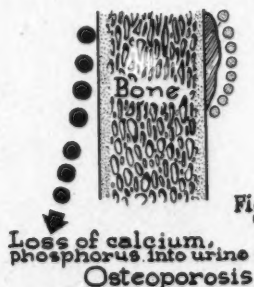


Fig.13

Clinicopathologic Conference (Case 11)

Symptoms: A man of 58 complained of pain in the epigastrium which appeared three or four hours after meals. X-rays demonstrated a "gastric ulcer." Powders relieved the pain for 7 months, then failed to do so. Food relieved a recurrence of the pain after meals. Epigastric fullness, belching and uneasiness after meals were noted.

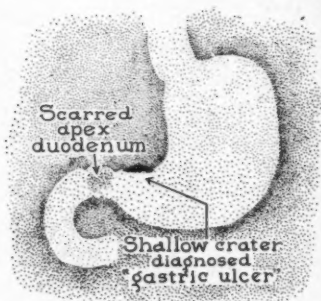
Examination: Negative except for small, indirect, inguinal hernia. Temperature, pulse, respirations, urine were normal; hemoglobin 15.8 Gm. (normal); gastric analysis showed no free acid in first specimen, 27 and 15 units in second and third specimens.

X-ray: Spasm of antrum; on the lesser curvature, there was a shallow collection of barium which might represent a flat crater. The apex of the duodenum was scarred. The radiologist felt that it was an almost healed ulcer.

During the 2 months before entry,

there was a sudden change of symptoms. The most logical explanation was a small, slowly growing infiltrating carcinoma, the clinician believed.

Operation: An area 2 cm. in diameter was found where there was induration of the stomach wall, thicker, firmer mucosa and a shallow erosion. The

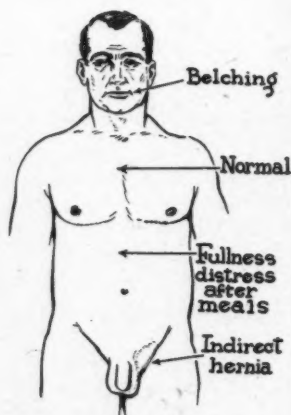


X-RAY



- History**
- 1 Crampy pains three hours after meals for five months
 - 2 X-Ray "Gastric Ulcer" Bland diet Ulcer treatment
 - 3 Almost complete relief for eight months
 - 4 Recurrent pain after meals despite powders; Pain was relieved by meals

SYMPTOMS

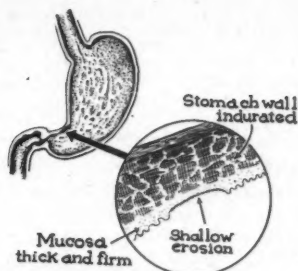


Urine, T.P.R. Normal
 Blood Pressure 110/70
 Hemoglobin 15.8 Gm.
 Gastric: No free HCL
 27-2nd Specimens
 15-3rd Specimens

EXAMINATION

gross appearance, reported by the pathologist, was that of a healed ulcer rather than a neoplasm. Microscopic studies indicated, however, that it was a carcinoma in situ, which had penetrated only a short distance into the muscular layer.

Summary: An early malignant growth discovered by using clinical judgment, rather than relying entirely on the x-ray. (Material abstracted from New England Journal of Medicine; original illustrations by Clinical Medicine).



Appeared grossly as healed ulcer. Microscopically: Early Gastric Carcinoma.

OPERATION

Care of the Newborn Infant

The newborn infant should be: 1. protected from possible infections; 2. adequately fed, and, 3. should receive early, complete and frequent physical examinations so that signs of illness can be detected early enough to permit effective treatment.

The less handling a baby has, the better. After birth, the baby is cleaned sufficiently to make the face and hair properly attractive, but not until from 8 to 14 days later is a complete bath, oiling or a lotion given. Clothing and cord dressings are changed daily in the crib. Diapers are replaced when needed.

Face masks and gowns should be worn when babies are being handled. No person with a respiratory infection should come in contact with the infant.

Babies are fed too often and too early. If the weight of the newborn is not going down by the fifth day, or is rising by the 10th, then all is well. The baby and mother should rest the first 24 hours following birth. After that, the baby should be at the breast twice during the day succeeding the birth; 2 to 4 times the next day, and there after at intervals of 4 hours.

Solutions of glucose or milk in water on the first and second day are luxuries which dull the infants hunger, and therefore, impair stimulation of the mother's milk supply.

Newborn infants who are fed too much and too early may develop aspiration pneumonia. Weak babies are made weaker by the trend to force nourishment. Unsuspected malformation of the gastrointestinal tract may complicate the early feeding.

The artificially fed baby should be on a simple formula. If a baby and his food are not getting along well together, the chances are that the fault is with the baby and not the feeding. The baby might best be kept with the mother constantly because of psychological and emotional factors.

For the care of abnormality or illness in the newborn, isolation space must be available, oxygen through a tent mask or other equipment, blood transfusion, and lumbar puncture, and subdural puncture needles.—C. A. SMITH, M.D., Boston Lying-In Hospital, Boston, Mass., in *The Doctors Talk Over*. (Lederle Lab.)

Mental Deficiency in Infancy*

TRUE mental deficiency or amentia dates from birth or early infancy. Mental deficiency may be defined as a deficiency that will render the adult unable to conduct his affairs with usual prudence. In other words, the patient will be dependent upon others for supervision. One should hold back a diagnosis of mental deficiency if there is any chance of the patient holding a job. If supervision is needed, the condition is called amentia.

If the diagnosis is made, consideration and tact of the highest order are required to discuss the case with the parents. This may challenge the skill and finesse of the physician.

Amentia should not always be considered permanent and incurable because it is a very diversified syndrome just as the neuroses are diversified groups which need interpretative diagnosis.

There may be sensory handicaps—deafness, blindness, or the apparent mental deficiency due to blindness or deafness of the child. Motor handicaps including palsy may be present. Personality changes may be present, and there may be mixed types of deficiency.

Discussion

Question: How early can one estimate a baby's intelligence?

Answer: Often the diagnosis may be made at birth and at sixteen weeks a deviation from normal intelligence can usually be recognized.

Physical stigmata such as those of Mongolism may be present at birth and even in the premature infant.

* CLINICAL MEDICINE staff summary of a paper given by Arnold L. Gesell, M.D., Dir. of Child Development Clinic Yale School of Medicine, at the Omaha Midwest Clinical Society Meeting 1946.

Cretinism can be resognized soon after birth.

Amentia may be present without stigmata or stigmata may be present without amentia.

Cases which look most normal and have normal faces may prove most defective because normal children suffer before, during or after delivery. In making a diagnosis the infant's behavior should be compared to the normal for that age, using a standard technique. Repeated examinations should be taken if necessary to see if there is retardation which is remaining still or is improving. However, amentia can usually be determined on one developmental examination.

Question: What diagnosis is possible in the case of a youngster who was normal up to the third month and then became listless, deteriorated and had convulsions?

Answer: Cerebral degeneration is the probable explanation. The cortical structures did not develop. Such patients may deteriorate during their first year in life and then hold their own, and even improve slightly, afterwards.

Question: What about feeding problems in spastic infants?

Answer: Feeding difficulties may be interpreted as dietary difficulties. A baby cannot control his respiration and coordinate his activity so that he can properly swallow his feedings. This is an early behavior sign, of neuromotor deficiency. The paraplegia is later expressed. The diagnosis could have been made earlier if developmental study had been carried out, in slight changes and delay noted in the infant's activity.

Question: At what age is a child's behavior pattern fixed?

Answer: The child has reached a

high development at the age of two years. The constitutional factors at this age include emotional disposition, susceptibility and the beginning of speech. Conscience is beginning at this age but it takes twenty years more to fully develop. Psychologically we are not grown up until we are in the twenties. As far as amentia is concerned, one can always recognize it by the second year, unless it occurs following infection.

Question: What about the differential diagnosis between Mongolism and Cretinism?

Answer: In Mongols the eyebrows are pulled up and out; in cretins the eyebrows are horizontal. Mongols have flat temples and flat occipital areas; cretins have normal cranial conformation. Mongols have a smooth skin while cretins have a rough, reddened, scaly skin.

There may be some relationship between Mongolism and Cretinism (??—by Editor)

Question: Do you think that acute, severe or chronic illnesses will lead to permanent mental effects?

Answer: Yes. The central nervous system is protected from injury by "insurance factors." The child with a good endowment escapes much of the bad results. However, they may affect the child with inferior endowment.

The child may be backward because of his environment.

The child who stays in the hospital for months will be affected, the extent of the effect depending on the temperament of the child. Some escape from the meagerness of their environment; others have simulated mental deficiencies due to reduced behavior.

The institutionalized child doesn't get conscious attention of a parent, especially the mother. He cannot organize his emotions around the mother.

Even at sixteen weeks, there may be a reduction in behavior, a decline in alertness of eye movements, and accumulated signs of depression with the passage of time. The eight to twelve week behavior may show less integration.

Facial expressions are less mobile and body functions reduced. There is less communication with others around him, due to the lack of inter-personal contact. The baby has reduced initiative and tends toward stereotyped behavior. Such babies move better when laying on their backs than in sitting up. They have a fictitious "shyness." They are awkward, especially with strangers and resistant to strangers. Their language adaptation is reduced.

These effects on the orphan or illegitimate child may be overcome if the patient is placed in a home. It may be necessary to give behavior tests to differentiate between amentia in an institutionalized child. If good behavior patterns appear, amentia is ruled out. If amentia is present reduced possibilities of adaptation are present.

One should never make a diagnosis of mental deficiency or amentia unless certain that it is the correct diagnosis. Don't tell the parents that the patient will get over it. It is the physician's responsibility to help parents face reality, gradually, steadily.

One may lead up to the subject by using other descriptive phases, such as a reduction of developmental potentialities. Emphasize what qualities the baby does have. Call attention to other children with relatively more involvement.

Parents must recognize facts. First one should plant the suspicion that all is not well, then gradually lead to freer discussion and adjustment with reality. The management of amentia is a problem of family welfare.

Pulmonary Calcification

The finding of many calcified areas in a lung x-ray can no longer be dismissed as evidence of healed tuberculosis. Skin testing discloses that many such persons have a negative tuberculin test and a positive histoplasmin test. Study of thousands of chest films of inductees into the armed services indicate that such multiple pulmonary calcifications are especially to be found in the central portion of the United States. White persons have a much higher percentage of lung calcifications than negroes. That the incidence of calcification increases rapidly is shown in a Kansas City study by the U. S. Public Health Service; from 1 per thousand at age 4 to 6, to 10 per thousand at age 16 to 18. The illustration is redrawn from the Jan. 3, 1947 *Public Health Reports* and figures taken from article by R. H. High, H. B. Zwering and M. L. Furcolow of U.S.P.H.S. in the same issue.

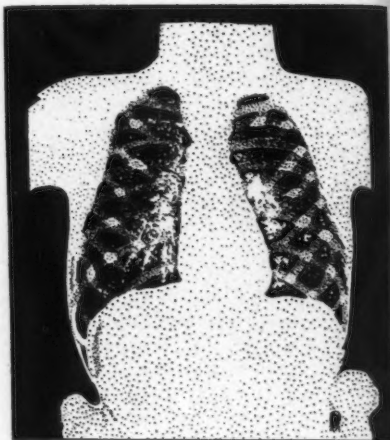


Fig. 1. Multiple bilateral type of pulmonary calcification (tuberculin negative, histoplasmin positive).

Early Congestive Heart Failure

Fig. 1. The cardinal symptoms of early congestive heart failure are *shortness of breath (dyspnea)* and *fatigue on effort*, characteristically progressive (more severe upon a given effort and more readily induced by lesser effort). There may or may not be discomfort over the congested liver, cough, discomfort in the chest, or gastro-intestinal disturbances. Later, there is edema of the ankles which increases during the day and subsides overnight. As edema increases, there is progressive gain in weight.



Fig. 1

PICTORIAL SECTION

Fig. 2. The cardinal signs of early congestive failure are those of increased venous pressure, first to be seen in the distension of the neck veins above the level of the clavicles. Increased venous pressure is also manifested by the failure of the veins of the forearm to collapse when they are raised above the level of the right auricle. The increase in pressure may be measured by a simple water manometer inserted into the antecubital veins. Passive congestion of the liver leads to enlargement of the organ which can then be felt below the right costal margin. Slight degrees of ankle edema may be observed when the patient has been erect for a period of some hours.

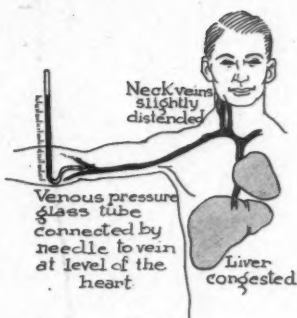


Fig. 2

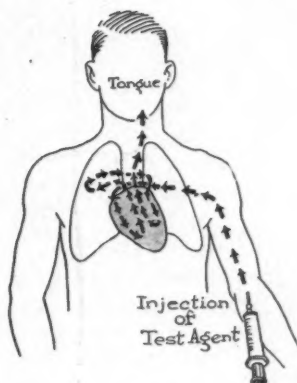


Fig. 3

Fig. 4. The proper treatment of early congestive heart failure provides a therapeutic test. Digitalis or one of the purified digitalis glucosides administered in doses sufficient, first, to digitalize the patient and, second, to maintain digitalization will produce a copious diuresis and an associated loss in weight due to the release of edema fluids. If necessary, the effects of digitalis may be augmented by the use of a salt-free diet and the judicious administration of mercurial diuretics.

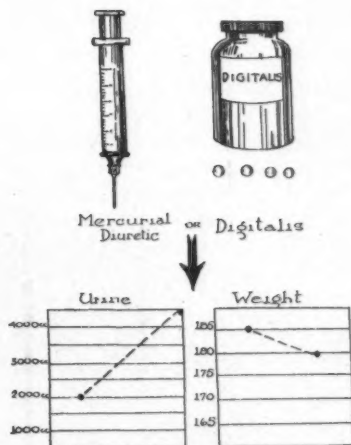


Fig. 4

The Changing Complexion of Medicine

By EDWIN J. SIMONS, M.D.

Swanville, Minnesota

IT IS A far cry from the horse and buggy days of medicine to the exact diagnoses and specific treatment of to-day. The phenomenal progress of scientific medicine can well stir the hearts of the profession with pride, and the minds of the American people with gratitude. Yet, through the transition from the old to the new, changes have occurred upon which the profession might well meditate. *It might be well to consider what good in the old order has been lost, and what undesirable features exist in the new.*

The Old

At the turn of the present century, diphtheria occurred in vast pandemics. Typhoid and scarlet fever had widespread prevalence. Smallpox still decimated the population in recurrent epidemics. For these and other infectious diseases, the family doctor spent hours supervising what symptomatic treatment was advisable. As the years passed, diphtheria immunization was added to smallpox vaccination. In time, too, have come prevention of typhoid and scarlet fever, and other infectious diseases. Vaccination and immunization campaigns have reduced most of the infectious diseases to comparatively infrequent occurrence. Thus, preventive medicine, though scarcely known a half century ago, has changed the physician's experience with infectious diseases to one of prevention rather than that of "watchful waiting" and symptomatic treatment.

The New

Accurate diagnosis of many diseases closely approaches an exact science to-

day, whereas it often depended solely upon nicety of judgment and clinical acumen in the not too distant past. For instance, when the general practitioner was called to see a jaundiced patient some years ago, gall bladder disease and catarrhal jaundice concerned him most. The final determination of the diagnosis came from repeated observations and the clinical course. Now, a long list of both surgical and medical diseases of the liver requires consideration and a multitude of the most intricate laboratory tests often must be done. At times only needle biopsy puncture of the liver and microscopic examination of tissue will produce the correct diagnosis. So, at present, proper diagnosis of many diseases, as exemplified by those of the liver, is no longer within the scope of the general practitioner's facilities.

Correct treatment of different diseases also portrays a change from the old order. Classic references depict the doctor of the early part of this century almost constantly at the bedside of the pneumonia patient. Even the textbooks of that period advocate principally sponge baths, hot applications to the chest, and stimulants through the crisis. Now, with the typing of the different strains of pneumonia bacteria have come serum for each strain, the sulfonamides and penicillin have been added as effective anti-pneumonia agents. So now, proper treatment means accurate typing of the bacteria in the sputum, blood studies, and laboratory tests to guide the usage of the different remedial agents. Now, each case must be in a hospital (Author's opinion—Editor)

where such tests can be done and the proper curative agents given as required. The attainments of science in correct treatment of various diseases have replaced the old symptomatic treatment in the home.

No less phenomenal have been the developments in surgery, obstetrics, radiology and other fields. The colossal increase in knowledge and the perfection of diagnosis and treatment in these varied medical specialties is clearly beyond the realm of one man, the general practitioner.

Specialization

Also, as part of this change has come a growth of specialization. Reorganization of the Johns Hopkins Medical School faculty in 1889-90 began to focus attention on postgraduate medical training. A second impetus toward specialization came with the Flexner report of 1910. As a result of it, more than of any other single factor, the diploma mills and an easy, rapid medical education fell into disrepute. Internships, residencies and fellowships became an integral part of medical education. Added momentum toward limitation of practice and specialization also came from the first World War. So marked has grown this trend that at present specialization involves one of every four physicians.

With the growth of specialization, there has come a migration of doctors from rural areas and a concentration of them in the cities. This is an inevitable result, for the practice of a specialty is dependent upon large reservoirs of potential patients. As the ranks of the specialists have increased, the number of rural and general practitioners has decreased. In this regard, a recent study has shown that not only has there been a reduction in the number of rural physicians during recent years, but also rural physicians are much older than those in urban locations.

Hospital Facilities

Closely linked with this is the inadequacy and maldistribution of hospitals. The inadequacy of hospital beds in the larger cities is well recognized, but *the lack of hospital facilities in rural sections of the country is even more critical*. In 1200 counties with 15 million people, there is either no hospital or none that meets minimal hospital standards. Principally, the shortage involves beds for the acutely ill. Yet, were there more domiciliary quarters for the aged, and were there more institutions for the chronically ill and convalescents, the acute and emergency cases could easily be provided hospital care. It is noteworthy, too, that the shortage of all these types of hospital beds exists in rural, as well as urban districts. Thus, too, one of the inseparable components of medical care, hospital facilities, is grievously inadequate.

Cost of Medical Care

Not least among the pathologic features is the increased cost of medical care. At the beginning of the century, practically the entire cost of medical care was the physician's bill for personal services. As long ago as 1929-32, the Committee on the Costs of Medical Care found the physician's services amounted to but 40 per cent of the whole bill. With the increase of hospitalization, the developments in diagnosis and the advances in treatment, the physician's fee is but a minor item in the cost of medical care.

Suggestions

Having reviewed some features in the evolution of scientific medicine which have led to gross sociological maladjustments in its practice, the question arises, "What remedy is advisable."

Before embarking upon such a discussion, it is essential to establish the broad principles necessary for therapeutic guidance. It is the quality of American medicine which is its saving grace. Anything which reduces its ex-

cellence threatens the whole product. Any remedial agent which slows the progress of scientific advancement is detrimental to the whole organism. Always bearing this in mind, one is free to outline corrective suggestions.

So far as the problem involves the scarcity and maldistribution of general practitioners, superficially the solution appears to be simply more general practitioners widely distributed. Such, however, is not the case. Here, a page can well be taken from Russian medical history. Within the past quarter of a century, 18,000 physicians once served 170 million Russians. Now, it is claimed 200,000 physicians provide medical care for even less than the original 170 million. Woven into this record, though, is a story of improvement in medical education, a gradation of specialized services, a wide distribution of all different types of medical care, and also a program of compulsory post-graduate education. All of these features should be included in any plan for increasing the number of American general practitioners.

From too few general practitioners, to too many specialists also seems to be a problem simple of solution. But again, this is not true. Only relatively are there too many specialists. Actually, a greater number of specialists of all types is needed. Still, there can be no denying that specialists of all kinds should be more widely disseminated to make them as accessible to the rural population as to city dwellers. *Distribution is equally as important as the number of specialists.*

As to the hospitals, the first requirement is more of them in both cities and rural areas. Part of this same formula is additional hospitals for the chronically ill and homes for the aged and convalescents. Already, a gradation of hospitals has been effectively employed in some areas to bring all types of medical care to all people. In such

schemes, there is first the rural medical center, and then district, regional, and finally the state hospital. Services provided range from obstetrical and minor surgical care in the rural medical center to the latest developments in both diagnosis and treatment in the state hospital. Through a gradation of facilities such as this, every detail of medical care is available, as needed, to the entire population.

Next, the increased cost of medical care requires consideration. Even while considering definite measures to reduce this cost, medicine's best foot should be put forward by emphasizing two facts. In the first place, widespread recognition should be given the fact that very little of the increase in cost reaches the physician. And secondly, the increase is due to a vastly improved product, in fact, the best medical care to be found anywhere in the world.

For the wealthy, no economic remedy is necessary. For the vast body of the middle class, the cost of medical care can best be reduced by voluntary prepaid medical care programs. European and American experiences with compulsory and voluntary programs, respectively, show that the voluntary types are most economical and provide better service. For the indigent and marginally indigent, the Minnesota program appears best. In it, medical, dental and other allied professions voluntarily reduce the cost of services or supplies to a level which the taxpayers can afford.

So, it is seen that a sociological cancer is invading the vital organs of American medicine. Its immediate cure is as imperative as the maintenance of high medical standards. Unless the medical profession itself eradicates the disease, political forces will direct its treatment. In every other country where this has occurred, not only has the quality of medicine suffered, but the cost of it has been far greater than that of the better product it replaced.

Enuresis

By R. L. CORRELL, M.D.

Clarion, Iowa

ENURESIS has been considered a psychologic problem by the psychiatrists, a symptom of an organic urologic disease by certain neurologists (M. F. Campbell),¹ a conditioned reflex by psychologists, and a headache by the general practitioner.

In an experimental study among a group of young men from 16 to 22 years of age², it was found that over two thirds of this neglected group were symptomatically relieved by: 1. Prescription of $\frac{3}{8}$ gr. of ephedrine sulphate at bed time; 2. Waking at 1 and 4 a.m. and insistence on urination; 3. No liquids after 5:30 p.m. Supper; 4. Stopping the flow of urine several times during each urination.

Whether these men continued well or not, will not be known for several years. Unfortunately, only a few consented to urologic study, so the relief may have been symptomatic only.

The average physician might do well to employ the above routine. The ephedrine prevents the deep sleep that is so typical of these patients, and increases bladder sphincter muscle tone (it may in fact, cause urinary retention in older men).

If no relief is obtained, help in making the diagnosis may be obtained by x-ray. Cystourethrography, the x-raying of a liquid injected into the urethra and bladder, is a simple office or dispensary procedure³ which can be carried out without a general anesthetic. It is safe and relatively free from reaction. The size, shape, position and abnormalities of the bladder and urethra are accurately visualized, and the progression or retrogression of lesions can be observed and compared. A few of the maxims of Brodny and Robins should be kept in mind.

1. The establishment of continence in the enuretic patient does not rule out the presence of an organic lesion, as training may compensate for a defective voiding mechanism.

2. Persistent nocturia and bed wetting are related. *Frequent urination at night is as pathologic as bed wetting.* "Some physicians consider a patient with enuresis as cured when the bed is dry, even though he may void in the toilet two or three times during the night. The same criteria for cure of enuresis are also found in many reports in the literature."

3. Enuresis is usually due to a combination of organic, psychogenic and conditioned reflex causes, or to mental illness and mental defect. Problem parents, (divorce, separation), behavior problems, antagonisms, unhappy homes, psychoneurosis, emotional disturbances and sexual disturbances, are all factors. (Fortunate is the physician who knows the family well or who has social welfare work available to ascertain these causes and to help correct them—otherwise, the physician merely treats the symptom).

4. Any child of four years or older who must urinate two or three times nightly, whether in the toilet or in the bed, should be studied from the intellectual, the psychogenic, the physical aspect and the other factors listed above.

References

¹ Campbell, M. F. Enuresis. *Arch. Pediat.* 54: 187, 1937.

² Unpublished data from Dr. Russell Wilson's enuresis study at U. S. Maritime Service Training Station, Sheepshead Bay, Brooklyn, N.Y.

³ Brodny, M. L. Enuresis. *J.A.M.A.*, 126: 1000. Dec. 16, 1944.

EDITORIALS

What Is General Practice?

General practice is freely discussed by those who do not realize its extent or value. True general practice is being carried out today only in cities of less than 50,000 population. Its range may be indicated by the following illustrations.

Popular magazines and articles refer to general practitioners in endearing but inaccurate terms, and usually portray him in an antiquated office, sloppily dressed, and without modern diagnostic and therapeutic equipment.



House calls.



An integration into the social life of the community.



Physical examinations and office therapy.



The usual obstetrical procedures.



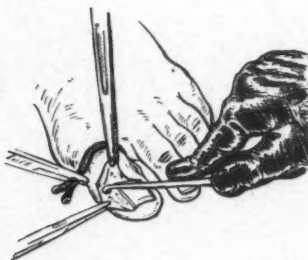
Major surgery, if previously trained.



A working knowledge of urinalysis, blood counts and microscopic examination of smears.



Psychosomatic discussions with patients.



Minor surgery

Is Streptomycin Safe? Dizziness Following Streptomycin Therapy

There have been a number of reports outlining complications occurring during or following streptomycin therapy. One of the most disturbing is that of vertigo, which tends to persist long after discontinuance of treatment. H. A. Brown and H. C. Hinshaw (*Proc. Staff Meet. Mayo Clinic*, 21:347 Sept. 4, 1946) report that disturbance of equilibrium is the most common

toxic symptom, and that once the dizziness appeared there seemed to be little tendency for labyrinthine function to return even when treatment was suspended fairly promptly. Tinnitus occurred in several patients.

Severe vertigo is a disabling symptom. Therefore, streptomycin should only be administered for very serious diseases.—R.L.G.

CLINICAL NOTES AND ABSTRACTS



Types of Diabetes

One. *Regular or usual type.* The regular or usual type consists of those patients with diabetes mellitus of unknown cause. In the unstable variety, the blood sugar will rise above the renal threshold without relation to the intake of food, and a high blood sugar, and the appearance of sugar in the urine will occur nearly as frequently at night as during the day. This variety is usually found in the young person; therefore, the term "juvenile" or "unstable" variety has been attached to it.

In the stable variety, the hyperglycemia and glycosuria occur in relation to the ingestion of food, and do not appear at night, if the diabetes is controlled during the day. This variety is more common in the adult; therefore the term "adult" or "stable" variety has been attached to it.

Two. *The arteriosclerotic type* of diabetes mellitus occurs in older individuals who have arteriosclerosis. It is mild and the patients never develop acidosis, nor is the amount of sugar in the urine excessive. The diabetes develops later in life, after arteriosclerosis has become well developed. The complications occurring in such patients are due to inadequate circulation of blood to the myocardium, brain, kidneys, and lower extremities.

Three. *The obesity type* is associated with overweight, high blood sugar, and sugar in the urine. Acidosis does not develop in such cases. The high blood sugar and urinary sugar disappear when the body weight of the patient is brought to within normal limits.

Four. *The endocrine type* includes

those persons with diabetes mellitus secondary to tumors of the pituitary or adrenal glands.

Five. *Diseases of the pancreas.* Those patients with diabetes mellitus in which demonstrable lesions of the pancreas are patients; in some cases recurring attacks of pancreatitis may be the causative agent or tumors of the pancreas have been encountered.

Six. *Disease of the liver* may also be associated with diabetes mellitus.

Diagnosis: The diagnosis of the first type of diabetes is made by establishing the presence of diabetes mellitus and by excluding other types.

The diagnosis of the arteriosclerotic type is made in older persons with mild diabetes mellitus arteriosclerosis. We should not forget that an older person may develop the usual type of diabetes and acidosis may occur. If there is a history of acidosis, or if it is present, arteriosclerotic diabetes is excluded.

The diagnosis of the obesity type can be established only if the diabetes disappears after the body weight of the patient is brought to within normal limits.

The diagnosis of the fourth type, those with diabetes mellitus secondary to tumors of the pituitary or adrenal glands is made by the presence of other manifestations of such tumors. The diagnosis is definitely established if the diabetes subsides following removal of the tumor or recession of the tumor following roentgenotherapy.

Diseases of the pancreatic parenchyma are diagnosed by a history of chronic biliary tract disease, or of large, bulky and foul stools, or attacks of pain in the

epigastrium, radiating through the back in the upper lumbar region. A palpable mass in the region near the pancreas or an enlarged liver, or the presence of large, bulky and foul, fatty stools are additional indications for further study. Studies of the pancreatic enzymes in the stools and in the aspirations from the duodenum through the duodenal tube may be of help.

The diagnosis of the sixth type are those associated with hepatic disease and is made only when there are other manifestations of hepatic disease in a person with diabetes mellitus.

Treatment

The treatment of the arteriosclerotic type of diabetes mellitus has been the same as that employed for the stable regular variety. In recent years, patients with arteriosclerotic heart disease and diabetes who received the usual therapy either did not improve or became worse and did improve when the diabetes became slightly or moderately out of control. It has been my practice to control the diabetes in the usual fashion and as soon as the urine has become free of sugar, to increase the diet by 50 to 100 grams of carbohydrate. In rare instances, it will be necessary to add or to increase the dose of insulin. The urine is permitted to show a trace of sugar in the midmorning specimens, but is kept free of sugar for the remainder of the 24 hours. The blood sugar rises to slightly above the renal threshold during the mid-morning, but it remains below for the rest of the time.

In the obesity type, insulin is used if it is required in the necessary doses. As the diabetes improves, the insulin is reduced and eliminated. And after the body weight reaches normal limits, the diet is increased gradually until glycosuria appears or until the high carbohydrate diet is obtained.

The treatment of diabetes and liver disease is in the same manner as the usual type except that the carbohydrate intake is increased, as is the protein, but the fat content is reduced greatly. Betaine hydrochloride, choline, or methionine may be administered. —JAMES A. GREEN, M.D., (Prof. of Med., Baylor Univ. College of Med.) in *Arizona Medicine*, May, 1946.

Protein Starvation

For all practical purposes, starvation, aside from lack of minerals and vitamins, is protein starvation. When there is a dietary deficiency of calories, the body fat is drawn and used for energy.

Protein deficiency is common and serious. It is a complication of a variety of diseases, ranging from certain kinds of trauma and injury to infections and infectious diseases.

Many kinds of injuries and diseases are accompanied by a negative nitrogen balance—meaning that more nitrogen is excreted than is taken into the body in the form of protein. Even so simple a restriction as confinement in bed may produce this effect, especially in fractures of large bones in previously healthy and well-nourished persons. The negative nitrogen balance stands out as an abnormality. There is usually a negative calorie balance. This phenomenon, if of long enough duration, and severe enough amount, depletes the body reserves of protein. This is responsible for loss of weight, muscle atrophy, weakness, and other effects of such illness.

Besides fractures, this abnormality occurs during severe burns, after major surgical operations (especially those in which the peritoneum is opened), with infections such as osteomyelitis, and abscesses, and with some infectious diseases, such as typhoid fever and meningitis. This phase, the catabolic phase of reaction to injury or disease may last for weeks and is succeeded by the anabolic phase during which the nitrogen balance becomes positive. Nitrogen is retained in protein form. It corresponds to the period of convalescence and recovery.

Clinical Manifestations

The main manifestation of this deficiency is the loss of body weight. At first, a loss of fat; when more severe and long continued, revealed by muscle atrophy.

Treatment: Patients with fractures of the larger bones, after severe trauma, or serious burns, and in most surgical operations for acute disease should be treated with a diet which is appetizing, well-balanced and which is supplemented by milk drinks, composed of milk with

added skim milk powder, or prepared casein and glucose.

The simplest guide in the management of these patients is the loss of weight which, except for the complication of edema, is a sensitive index to the state of protein nutrition. Losses of more than 10 percent below the ideal weight are signs of actual protein deficiency. This is not true of persons who are over their ideal weight. Examination of the plasma protein will indicate a lowering of the protein and the probable occurrence of edema.

Parenteral feeding is best accomplished by stomach or duodenal tube which can be used intermittently or continuous drip. Liquid food should be used with the addition of amino-acid solutions. They are very efficient in replacing protein and make it possible to introduce large amounts of nitrogen with relative ease.

Vitamin B Complex including thiamin, riboflavin, and niacin should be given orally, or by injection.

During pregnancy, a similar protein deficiency exists, and following delivery, there is a negative nitrogen balance. During lactation, extra nitrogen is needed. Toxemia of pregnancy is rare in women whose diets have adequate amounts of protein. This is also true of edema. (Abstracted from *J. District Columbia M. S.*, June 1946.

Etiology in Medicine

In approaching etiology in clinical practice, one should try first to determine a functional and anatomic diagnosis for each symptom. The etiology should then always be approached from the point of view of three groups of contributory factors:

1. A constitutional trend or diathesis.
2. Negative factors, i.e., deficiency of health-promotive factors, such as vitamins, iron.
3. Positive factors, i.e., disease-producing agents.

Only in this way will clear sight be kept of the multiple etiology of disease, without which prognosis, treatment, and rehabilitation will always be inadequate.—*J. F. BROCK, Clin. Proceedings, Cape Town Post-Grad. Med. Assoc., Special Supplement, July 1947.*

Obstetric Anesthetic Dangers

One of the greatest hazards of inhalation anesthesia for obstetric patients is the aspiration of vomitus with resultant aspiration pneumonia. A therapeutic dose of atropine, given hypodermically when the patient is taken to the delivery room, usually lessens salivary secretion. During long labors, glucose should be given intravenously rather than a full diet, to avoid gastric overloading.

There is a high incidence of stomach dilatation during labor, which also tends to induce vomiting under anesthesia. The patient who vomits under anesthesia should be placed in the Trendelenburg position (feet high, head low) and suction begun through a catheter placed in the pharynx. Gastric lavage should be used before a general anesthetic is given, if there is any evidence of gastric dilatation.—*J. P. GREENHILL, M.D. in Am. J. Obs. & Gynec., July 1947.*

Treatment of Acute Hemorrhoidal Pain

Acute hemorrhoidal pain may be relieved by alternate applications of hot witch hazel compresses and ice cold packs, to swelling, thrombosis, and edema of the anal area. The injection treatment of internal hemorrhoids is safe for: 1. Bleeding during bowel movement; 2. protrusion or prolapse during exercise in patients not eligible for surgery, as during pregnancy or postpartum period; 3. serious cardiac or anemic patients; and 4. elderly patients who prefer a palliative measure that may endure for their life term.—*W. THOMAS BROCKMAN, M.D. (Greenville, S.C.) in Southern Med. J., Aug. 1947.*

X-Ray Treatment of Arthritis

The treatment of arthritis with small doses of x-ray to the limb and also to the lower cervical and upper thoracic region, if the upper limb is affected, (75 roentgens are used at 60 or 70 cm.) repeated every 5 days.—*N. S. FINZI, M.D. In Proc. Royal Soc. Med., Jan. 1947.*

(The author reports good results in sciatica, certain forms of neuritis including the post-herpetic variety and multiple cystic mastitis.—*Ed.*)

Iron Deficiency Anemia

Iron deficiency anemia is one of the most common nutritional conditions encountered in practice. It is found principally in children and in women. Children require iron for growth, in addition to the endowment they receive from their mother at birth. The mother furnished iron from her own store and at its expense, iron for the hemoglobin of the fetus. With inadequate iron stores of her own, she may not give the infant sufficient reserve. Growth requires additional amounts and with an inadequate dietary intake, may fail to meet demands.

In adults, loss of blood, from chronic bleeding hemorrhoids, peptic ulcer, frequent pregnancies, and surgical operations, may reduce the reserve to a point which makes it impossible to restore normal levels of hemoglobin.

Pharmaceutical preparations of iron must be given in adequate doses. The surprising thing is the number of people at the present time with this disease, sufficient to interfere with their health and efficiency, and in whom it is not recognized and not treated. Patients with a history of loss of blood are operated upon. They lose more blood. They receive one or more transfusions and are finally discharged convalescent, with the hemoglobin returning toward normal. A surprising amount of ill health continues, and the hemoglobin does not reach normal. The proof of the cause of ill health is a demonstration of lowered hemoglobin, and a response of blood to adequate doses of iron and the relief of symptoms. Clinically this is shown by a significant reticulocytosis. JOHN B. EWENS, M. D., in *New England J. of Med.*, June 13, 1946.

Intramuscular Penicillin for Impetigo

The intramuscular injection of 2 doses of 5,000 units of penicillin each, at 3 hour intervals results in prompt healing of lesions of impetigo in the newborn. A local antiseptic solution may be applied after breaking blisters and dusting with a powder containing 10 percent mercurous chloride. — C. A. ALDRICH, *Amer. J. of Diseases of Children*, Sept. 1946.

Trichlorethylene for Trigeminal Neuralgia

The inhalation of trichlorethylene (trichlorethylene) is the most efficacious medical therapy of trigeminal neuralgia. 25 drops of the drug should be inhaled regularly 3 to 4 times daily, for 1 or 2 weeks, and longer if it relieves pain. The drops may be put on cotton in the bottom of the drug should be inhaled regularly down when inhaling, so that dizziness will not be troublesome. If ineffective, 100 mg. of thimaine chloride (vitamin B) may be given intravenously each day.—GILBERT HORRAX, M.D. in *Surg. Clin. N. Am.*, June 1946.

Vaccination Against Influenza

Influenza has been definitely proved to be caused by a virus of which two types with different immunological reactions, A and B, have been isolated. Type A, discovered by Smith, Andrews and Laidlaw, is the more severe and has an incubation period of 24 to 48 hours following intranasal inoculation. Type B, identified in 1940 by Francis and Magill, is less severe and has an incubation period of only 12 to 18 hours. Mixed vaccine for Types A and B influenza virus is made by inoculating hen's eggs, incubating, and extracting the virus from the embryo's red cells, inactivating the virus with formalin and preserving it with merthiolate. Vaccine produced by the blood absorption method as used by the Army, contains several times the amount of virus as that prepared by calcium phosphate precipitation and is, consequently, presumed to be more effective. One inoculation (1.0 cc.) produces a sharp increase in immunity in over 90% of persons inoculated within two weeks and there is only slight decline after four months. Although antibody titers remain elevated above pre-vaccination levels for a year or more, protection cannot be expected for more than a few months. The total dose of 1.0 cc. may be given adults at one time or in two 0.5 cc. doses a week apart. Children should be inoculated with fractional doses given at three-day intervals. Individuals who are known to be sensitive to eggs should not be vaccinated.—Edit., *Minn. Med.*, 29, 11, 1150 Nov. 1946.

Prevention of Leakage from Intestinal Anastomoses

Experimentally and clinically, it has been shown that leakage from intestinal anastomoses may be prevented by reinforcing the suture line with a strip of peritoneum. *Technic:* 1. Cut a strip from the anterior peritoneum $\frac{3}{4}$ inch wide and long enough to completely surround the bowel and a little extra; 2. moisten the strip with a few drops of thrombin solution (500 units of thrombin in 5 cc. of physiologic saline solution); 3. swab the suture line with human blood plasma (may be obtained from pooled human refrigerated plasma); 4. apply pressure to the peritoneal strip for 5 minutes, preferably with a thin, springy metal clamp, until it adheres; 5. paint the graft and bowel with plasma, moisten the omentum with thrombin and apply it over the graft, thus giving double reinforcement. Before suturing the bowel, also, it may be well to moisten the opposing sides with thrombin and with plasma.—JOHN DEVINE, F.R.A.C.S. (University of Melbourne, Melbourne, Australia) in *S.G.&O.*, Apr. 1946.

Penicillin to Prevent Infections

In minor or superficial wounds, a local dusting with penicillin powder should be carried out as soon as the wound is seen, and repeated at a subsequent dressing. Dressings should not be changed frequently. In more severe or contaminated wounds, systemic penicillin administration begun, local surgical procedures fully carried out and penicillin applied locally. There is no need to add sulfonamides.—Penicillin by PROF. A. FLEMING (Blakiston).

Estrogenic Migraine

Migraine headaches due to estrogens hyper-activity manifested in menstrual disturbances, such as excessive or prolonged menstruation, may be relieved by the injection of 2 to 5 milligrams of a progesterone preparation.

A sensitivity to estrogens may be shown by inducing, with estrogen, an attack of migraine identical to those occurring naturally.—I. SINGH, M.D., in *Lancet*, May 31, 1947.

Complication Following Hysterectomy

In the total abdominal hysterectomies, fever followed 60 percent without apparent cause. Of the remainder, specific diagnosis were made as follows: cystitis or pyelitis 18; generalized peritonitis 5; post-operative hemorrhage 5; wound infection 5; pelvic abscesses 3; pelvic cellulitis, ileofemoral thrombophlebitis, gastro-enteritis, each 2; and ileus (adynamic), tracheobronchitis, and drug fever, each 1.

In the supravaginal group there were three cases of unexplained morbidity and 1 case each of cystitis or pyelitis, wound infection and fecal fistula.

There was but one death in the entire series, a mortality rate of 0.15 per cent. The death followed unsuspected, massive intraperitoneal hemorrhage from the abdominal wall after total abdominal hysterectomy.

The highest morbidity was encountered in the group of vaginal hysterectomies, in which urinary infection accounted for 81 per cent of the morbidity. In 7 cases there was no apparent cause for fever. Pelvic abscess, ileofemoral thrombophlebitis, tracheobronchitis and ureteral fistula each accounted for 1 case of morbidity.—C. H. TYRONE, M. D., in *Ochsner Clinic writings*, Dec. 31, 1946.

Synergistic Action of Digitalis and Quinidine

Patients with cardiac failure should be digitalized first before quinidine is administered to influence arrhythmias and tachycardias. Patients not in failure, but who have annoying or disabling attacks of fibrillation, should be given quinidine in increasing doses, supplemented by digitalis if the irregularities persist. Although quinidine should be given with care since some persons will not tolerate it, mild symptoms of slight tinnitus, headache, weakness and nausea will often spontaneously disappear if the drug is continued. Patients with long-standing auricular fibrillation who are fairly comfortable and not annoyed by the arrhythmia should be left alone, especially where there is an underlying organic heart condition.—J. J. BLINN, *New York State J. Med.*, 46, 19, 2174, December 1946.

Benadryl for Common Cold

Benadryl will completely abort 10 per cent of common colds. It will shorten the course and afford marked subjective relief in 95 per cent of all cases by 1. inhibiting the serous discharge from the respiratory mucosa, 2. its sedative effect, 3. inhibiting the cough reflex and eliminating postnasal drip and 4. aborting herpes simplex (fever blister). It has no antipyretic effect. Dosage: 50 mg. capsule, repeated at night, if necessary. The patient must not drive a car or handle dangerous machinery—JOHN M. BREWSTER, M.D. in *Naval Medical Bull.*, Sept.-Oct. 1947.

Retention Catheters

The use of a retention catheter over long periods of time results in a partial or complete blockage of the catheter, due to crystallization of the urine. The obstructing sediment is caused by urinary infection with urea-splitting organisms and alkalization of the urine.

The use of solution G prevents crystallization of the urine during constant urinary drainage. The solution is a solvent for calcium phosphate and calcium carbonate and yet is almost non-irritating to the urinary tract.

FORMULA G

Citric Acid (monohydrate) ..	32.25
Magnesium Oxide (anhydrate)	3.84
Sodium Carbonate (anhydrous)	4.37
Water to make up	1000 cc.

Warning: Instill 2 to 4 ounces of the solution into the bladder slowly and keep there for two minutes, then allow it to drain out. This procedure is repeated at least three times, twice daily; or, in severe cases, it may have to be done as often as every four hours.—*Southern Med. & Surg.* Sept. 1946.

Preventing Death from Uterine and Ovarian Malignancies

One should perform conization for chronic cervicitis to improve the chronically infected tissue and thus prevent development of cancer of the cervix. Patients with delayed menopause should be investigated by a curettage. Endometrial cancer is found four times as

often in cases of delayed menopause as after a normal menopause. The patient should have a regular check-up and examination twice yearly in the climacteric age to detect the symptomless infiltration of ovarian carcinoma. Whenever the abdomen is opened in women of the climacteric age, the involuting ovaries should be removed. In a series of 59 ovarian cancers, 5 of the women had had an abdominal operation and ovary left in at the age of involution.—R. J. CROSSEN, M. D., in *J.A.M.A.*, March 1, 1947.

Penicillin in General Practice

These conditions are amenable to penicillin therapy: acute rhinitis, chronic catarrh, acute and chronic sinusitis (if spray can pass into sinuses), acute tonsillitis (systemic therapy), acute and chronic pharyngitis, quinsy (peritonsillar abscess), acute recurrent bronchitis and chronic bronchitis, lobar and bronchopneumonia, bronchiectasis, pleural effusion and empyema, vincent's angina and other stomatitis due to penicillin-sensitive organisms, genito-urinary infections, gonorrheal urethritis, otitis media, conjunctivitis, after removal of foreign body from eye, furunculosis, carbuncles, impetigo, pemphigus neonatorum and osteomyelitis.

Penicillin may be given by inhalation, by nose and throat spray, by intramuscular injection.—*Fleming's "Penicillin"* (Blakiston).

Intravenous Protein Preparation

In the treatment of protein deficiency, we have found that Baxter's Protein Solution is safe and has not resulted in a single case of pyrogenic or depressor type of reaction. Protein solutions are ideal culture media and any organism introduced into the bottle at the start of the infusion will have sufficiently multiplied at the end of two hours to give a reaction. With care, any vein thrombosis may be avoided by adding 5 percent glucose to the bottle of protein solution. The disadvantage of parenteral administration of proteins is that we are dealing with chronically ill patients who require over-feeding for long periods.—MAJOR A. KLEINMAN, *Med. Clinics, North America* March, 1946.

DIAGNOSTIC POINTERS



Stricture of the Female Urethra

Stricture of the female urethra is a frequent cause of urinary tract symptoms, including frequency of urination or distress on urination. A distended bladder may be mistaken for pelvic tumor. This condition may be due to obstruction of the urethra by a stricture. External pressure, as by a uterine fibroid, for neurogenic disfunction. The use of a catheter will often solve the question.

The shortness of the urethra, together with its close proximity to the vagina and rectum has a direct bearing on the greater frequency of non-gonorrheal urethritis in upper urinary tract infections in the female. Urethritis, which is associated with the trigonitis, is responsible, in the majority of cases, for frequency in urination and is the most common urinary disturbance of the female.—J. H. FRIEDMAN, M. D., in *Urologic and Cutaneous Review*, Feb., 1947.

After Abdominal Surgery

In the patient who is not doing well after an abdominal operation, pass a gastric tube (Levine or Wangenstein) and use constant suction to relieve gastric or intestinal distention, and examine the rectum for a pelvic abscess or impacted feces.—R. R. GRAHAM, M.D. in *American J. Surg.*, Dec. 1946.

Fecal Vomiting

Fecal vomiting without distention may occur in advanced uremia (azotemia) of renal insufficiency whatever the underlying lesion, and may be mistaken for gastrocolic fistula.—PAUL W. ASCHNER, M.D. in *Rev. Gastroenterology*, July Aug. 1946.

Bilirubin in Urine

Harrison's spot test for bilirubin in urine is a sensitive, simple test. To 10 cc. of urine is added 5 cc. of a 10 per cent solution of barium chloride, which is mixed and filtered. Spread filter paper on dry filter paper. Add 1 or 2 drops of Fouchet's reagent;* a positive reaction gives a blue to green color.—J.A.M.A., Sept. 28, 1946.

* Fouchet's reagent: Trichloroacetic acid 25 Gm., water 100 cc. and 10 percent solution of ferric chloride 10 cc.

Head Flexion Test in Sciatica

Two useful tests in sciatica: One is the well-known Lasague's sign and the other the head flexion test. The patient, for this test lies supine. With one hand the physician raises the painful limb, as in Lasague's test, until pain is experienced, and then the straight leg is lowered slowly until the pain first eases. Thereafter, with the other hand, the head is flexed so as to approximate the chin to the sternum. The result is regarded as positive if the pain in the leg is reproduced.—Dr. N. LITTLE, Australia.

Early Diagnosis of Rheumatoid Arthritis

Pain and stiffness appears in one joint for weeks or months, followed by swelling of other joints. Anemia, often severe, appears. Leukocytosis is often found. The sedimentation rate increases markedly in almost all cases. Many cases show a rarefaction of the bones adjacent to the affected joints. Two-thirds of cases exhibit a positive agglutination reaction to hemolytic streptococci.—R. L. CECIL, M.D. in "The Doctors Talk It Over". (Lederle).

Thumbnail Therapeutics



Protein for Infectious Diseases

Protein is essential to the formation of immune bodies. These substances which are of vital importance in resistance to infectious diseases are contained in the gamma-globulin fraction of the serum proteins. They are produced by the globulin producing cells of the liver tissue. Protein containing essential amino-acids is required. When actual protein deficiency occurs, and atrophy of the tissues follows, production of the immune bodies becomes inadequate. Even the production and activity of the phagocytes is impaired, and the second defense against infection is weakened.—JOHN B. EWENS, M.D., in *New England J. Med.*, June 13, 1946.

Decongestion of Acute Otitis Media

In early cases of acute otitis media (within the first 48 hours), when the drum is inflamed, non-bulging and intact. A few drops of 2 percent solution of ephedrine sulfate are instilled into the ear three times daily, for 3 days. Pain usually disappears after the first three treatments.—W. O. REM, M.D. in *British Med. J.*, Apr. 27, 1946.

Estrogens as Tonic for Older Women

Estrogens tend to restore the diminished vitality and intellectual vigor of the woman past the menopause. Estrogens have a tonic effect on older women, even in their late 60's and 70's. The hormone may be continued indefinitely after the menopause if a careful examination of the uterus and breast is carried out every 4 months.—South. Med. & Surg., July 1947.

Acne

A low fat diet and the oral administration of thyroid extract in 2 grain doses, daily, will alleviate many cases of acne vulgaris. These foods should not be eaten: Milk, cream, ice cream, butter or butter substitutes, cheese (except cottage cheese), lard, crisco, fried foods including potato chips, pork, ham, bacon, sausage, choca, nuts and peanut butter, cod liver oil and vitamin A concentrates, gravy, egg yolk.—GEORGE M. MACKEE, M. D. in "Skin Disease in Children" (Hoeber).

Ephedrine in Bronchial Asthma

Many patients with bronchial asthma and emphysema will not respond to ephedrine in doses of one grain, but will react well to doses of the same drug of two to three grains without toxic symptoms. This is demonstrated by increase in vital capacity, disappearance or amelioration of bronchi and subjective relief.—H. HERXHEIMER, *Brit. Med. J.* 1, 350, 1946.

Edema and Toxemia of Pregnancy

The employment of additional protein in the diet (meat, eggs or fish) and the decrease of calories (starchy foods, macaroni, bread, desserts, sweets) will cause a prompt reduction in edema of pregnancy and will prevent toxemia of pregnancy. The woman who does not gain over 16 pounds during pregnancy will not become toxemic, has less tendency to anemia or edema, and will give birth to a healthier baby. Thyroid extract may be given to tolerance. Amphetamine (benzedrine) sulphate in 5 mg. doses before meals helps to control appetite.—RALPH LUTKART, M.D. (708 Medical Arts Bldg. Omaha, Nebr.) in *Am. J. Ob. & Gyn. Sect.* 1946.



NEW BOOKS

Demonstrations of Physical Signs in Clinical Surgery

By Hamilton Bailey, F.R.C.S., Royal Northern Hospital, London, Eng.—John Wright, Publisher, Bristol, England. 1946 10th Ed. \$7.50.

This is one of the few good books on physical signs in diagnosis. Each section of the body is considered in a separate chapter. The important physical signs are given in text and clear, cleverly thought out illustrations. A combination of photograph and blackboard diagram is often effective in showing the method of examining the patient and the anatomical structure underneath. (This technic will be presented in a number of short illustrations published by this author in future issues of CLINICAL MEDICINE—Ed).

Many of these signs are well known to all who practice medicine and surgery. Others are not so well known, and a few of tremendous value have never been emphasized in this country. The detection of fluctuation, for example, is often mistaken, and yet is of paramount importance before determining what type of mass is being examined. The principal of comparison of the opposite half of the body for deviations from normal is again and rightly emphasized.

A few of the pointers will be little used in this country because of the more ready facilities for examination, but should be known to all practitioners so as to correctly orient themselves, and to make them more independent of laboratory facilities. Color photographs illustrate many pathologic lesions.

The book cannot be too warmly recommended for the surgeon, the internist or the general practitioner; all of whom come in daily contact with the cases described.

Allergy in Theory and Practice

By Robert A. Cooke, M.D., Director, Department of Allergy, Roosevelt Hospital, New York City.—W. B. Saunders Co. \$8.00.

Common sense, conservative allergy, well presented by the author and a number of authoritative associates. Fundamental principles are given, followed by consideration of allergic affections of each portion of the body, including the cardiovascular system, the eye, gastrointestinal tract, and discussions concerning foods and other substances causing allergic reactions. Clinical and laboratory technics are given.

Virus as Organism

..By F. M. Burnett, M.D., Hall Institute of Research in Medicine, Melbourne. Harvard Univ. Press. 1946. \$2.00.

A series of papers on viri, their variation and their effects in the human being.

The Physician's Daily Record

Kersten Publishing Company. Fort Dodge, Iowa. 1948. \$7.50.

The reviewer has used this daily office record for years and believes it to be the best on the market. At a glance, one can see the daily practice, the monthly and the yearly summaries of income, expenses and net income. This years edition is printed on heavier paper and a heavier cover. As usual, the cover is embossed in attractive fashion.

Baby Book

Better Homes & Gardens Baby Book.—Meredith. 1946. \$2.75.

A beautifully printed and illustrated book which tells the mother exactly what to do for the baby and why she is to do it. Instructions are given for breast feeding, and the mother encouraged, as most of them need to be, to breast feed her youngster. The range of normal activities for babies is constantly stressed. Step by step photographs show how to prepare formula and other technics. The entire range of time from prenatal care to six years of age is presented in a common sense way.

The Development of Modern Medicine

An Interpretation of the Social and Scientific Factors Involved. By Richard Harrison Shryock.—Knopf. 1947. \$5.00.

A well written survey of the transition of medicine from dogmatism and clinical observation to a science, replete with notes concerning many famous figures. The chapter describing the return of medicine to the public's confidence is especially noteworthy.

Surface and Radiological Anatomy

By A. B. Appleton, M.D., Professor of Anatomy, University of London, W. J. Hamilton, M.D., Professor of Anatomy, University of Glasgow, G. Simon, M.D., Demonstrator of Radiological Anatomy, St. Bartholomew's Medical College, London, England.—Williams and Wilkins Co. 1946. \$7.00.

A beautifully printed text, filled with anatomical illustrations and clear x-rays, indicating how one may correlate anatomy and its roentgenologic aspects. This book is especially worthwhile for the student and the general physician as it teaches simultaneously anatomy and x-ray diagnosis of the normal.

Lectures on Regional Orthopaedic Surgery and Fundamental Orthopaedic Problems

Instructional Courses of the Thirteenth Annual Assembly, The American Academy of Orthopaedic Surgeons, January 19-23, 1946. Edited by James E. M. Thomson, M.D. — J. W. Edwards. 1947. \$6.00.

This is the third of a series of publications of the lectures given during the instructional courses of the American Academy of Orthopaedic Surgeons. It differs from its two predecessors in that attention is now turned to the important problems of civilian practice.

There are four lectures each on The Foot and Ankle, The Hip, and The Shoulder. One is on anatomy; another on symptoms, pathology and diagnosis; treatment of non-traumatic disorders of the region; and treatment of trauma of the region. In most cases each lecture is by a different instructor who has devoted considerable special attention to that particular phase of the problem. The anatomical lecturers approach anatomy from the clinical view point with particular emphasis on functional anatomy. The accompanying illustrations add considerably to the clarity of these practical presentations.

Other courses include: Orthopaedic Physiology, X-ray Technic and Interpretation; Infantile Paralysis; Cerebral Palsy; Posture; Club Foot; Fractures; Symposium—Degenerative Hip Disease; Panel Discussion—The Painful Shoulder and Upper Extremity. The instructors for each of these courses are among the country's outstanding authorities in their respective fields.

Didactic statements based largely on empiricism are at a minimum.

This is an extremely valuable and practical post-graduate course for those who deal with traumatic and Orthopaedic problems.—S. B.T., M. D.

The Story of Human Birth

By Alan Guttmacher, M.D., Associate Professor of Obstetrics, Johns Hopkins University, Baltimore. Penguin Books, Inc. 25 cents. 1947.

A paper bound popular style book containing common sense discussion of the mechanical aspects of pregnancy and labor. As is all too often the case, the attention is centered on physical findings and events and little attention is paid to the patient's mental reactions to the pregnancy, to her husband, to the pain of delivery. The text is well written and may be read with advantage by any intelligent father or mother.

The Venous Pulse and Its Graphic Recording

By Franz M. Groedel, M.D.—Brooklyn Medical Press. 1946. \$5.50.

This monograph is intended for those who are interested in the more detailed cardiovascular phenomena. It is an important one, especially since the interest in heart sound records and cardiology in general is rapidly increasing. The bibliography is fairly complete, especially the references to European publications. Unfortunately, the text is not written in a simple manner for the beginner who is especially in need of such information. This monograph, however, is to be recommended to anyone interested in cardiology.—G.E.B.

Diagnosis in Daily Practice

By Benjamin V. White, M.D., Yale University School of Medicine, New Haven, Connecticut and Charles F. Geschickter, M.D., Professor of Pathology, Georgetown University Medical School, Washington.—J. B. Lippincott. 1947. \$15.00.

At last, a book written for the physician on the firing line! The authors state: "The future practitioner spends most of his time learning to diagnose those conditions which he will see the least number of times."

A very logical approach to the problem of diagnosing the patient's condition is given, from the standpoint of the practitioner who is confronted with a sign or symptom. The sign or symptom can be referred to in the text and it's common causes learned. This "symptom diagnosis" is the same procedure in its limited field that the rare, exceptionally well trained clinician can carry in his mind. Many pointers on differential diagnosis are given. The illustrations are very helpful.

The emphasis throughout is on helping the practitioner, (a motif not conspicuous in most texts today) and on common conditions (another sensible idea). The chapter on "Medical Emergencies" is excellent, but every chapter contains practical aid.—R.L.G.

The Mind and Death of a Genius

By David Abrahamsen, M.D., Department of Psychiatry, Columbia University.—Columbia University Press. 1946. \$3.00.

A boy is crammed with "book" knowledge. He is aloof from life, a trait inherited from his rigid father. He is alone, restless in his quest of something, unhappy. He writes a devastating summary of that which he never lived and could never understand, and of which he was so dogmatic. He commits suicide, as a final gesture of failure to adjust to realities.

A man's writing, like any other material creation, is not the man but something that he produces, just as an oyster produces a pearl, and beside which the man is often insignificant. Quotations from the author's work, including references to all women as unimportant, and of having either "mother" or "prostitute" status, do not give any great evidence of ability to grasp life's significance or of normal sexual drive. Possibly the old idea that genius and insanity are identical is here borne out.—R. L. G., M.D.

Gynecology

By Laurence R. Wharton, M.D., Assistant Professor of Gynecology, Johns Hopkins Medical School, Baltimore, Maryland.—W. B. Saunders 2nd. Ed. 1947. \$10.00.

One of the most practical books on gynecology published today has been revised and published in a new edition. The author is free to indicate methods that are effective. The illustrations are especially well done. Even if the gynecologist refers all of his urologic investigation, he must know much of this field to understand the interrelated problems and thus will need this information. Simple methods are not overlooked, such as the use of the hot sitz bath and mild sedation for dysmenorrhea. A useful book for the gynecologist, general surgeon and general practitioner.

The Problem of Fertility

Earl T. Engle, Editor. Princeton Univ. Press. 1946. \$3.75.

The papers and discussions of the conference on fertility, relating to animal and human reproduction. The discussions on the cervix are especially interesting.

Tuberculosis as It Comes and Goes

By Edward W. Hayes, M.D., Associate Professor of Tuberculosis, College of Medical Evangelists, Los Angeles, California. Charles C. Thomas 1947. \$3.75.

This is a book for the intelligent patient with tuberculosis who wishes to know more about his disease, its cause and its treatment. It is frank, clear and interesting to read. The emotional type of patient may not be able to read that a nerve is "crushed" without a psychic upset. Other terms which suggest gruesome or painful procedures to the patient should be eliminated.

The text, at times, seems to be directed toward the attending physician with instructions for example as to giving of codeine (should a patient ever know that he is being given a narcotic, even a mild one?). It is a bit inconsistent to state that pulmonary hemorrhage is not serious, then, in discussing treatment, to mention that occasionally a portion of lung is removed for intractable cases. Any patient with a chronic, recurrent disease must know about his condition, of course, and this volume will tell him all or more than he can absorb.

The Principles and Practice of Medicine

Originally Written By William Osler, M.D. By Henry A. Christian, M.D., Emeritus Hersey Professor of Theory and Practice of Physic, Harvard University.—D. Appleton-Century. 1947. 16th Ed. \$10.00.

This massive volume of over 1,500 pages is a disappointment to one who expects to find the most recent studies and clinical practice in one volume. The material on brucellosis (undulant fever) entirely ignores the great number of patients with chronic brucellosis who show fever only at intervals or not at all. The section on intestinal obstruction repeats old clinical signs and does not emphasize enough the importance of positive x-ray findings. "Oxygen is indicated when cyanosis is marked" in virus pneumonia, states the text.

There is much that is good in the text. It is unfortunate that much material is reprinted in edition after edition without change (see the outmoded material on hydronephrosis, for example). If each section were checked by someone especially interested in that field, many of these errors would be eliminated and the size of the book decreased.

The Management of Fractures, Dislocations and Sprains

By J. A. Key, M.D., Professor of Orthopedics at Washington University, St. Louis and H. Earle Comwell, M.D., Associate Professor of Orthopedics at University of Alabama, Birmingham.—C. V. Mosby. 1946. \$15.00.

This one large volume provides all the information necessary for making a diagnosis and treating skeletal injuries, or referring them for orthopedic therapy. The 1,300 illustrations drive points home definitely. The authors are clear, direct and frank. The techniques suggested actually work in practice, over a number of years. — R.L.G.

Handbook of Diet Therapy

By Dorothea Turner.—University of Chicago Press. 1946. \$2.00.

A dietitian brings today's normal, balanced diets to the needs of special diets for disease. The thin volume is complete with tables, food values and other data needed in computing diets properly.

The American Illustrated Medical Dictionary

By W. A. Newman Dorland, A.M., M.D., F.A.C.S., Committee on Nomenclature, American Medical Association; Associate Editor, *Clinical Medicine*.—W. B. Saunders. 1947. (21st Ed.). \$8.50.

This handsome leather bound volume is a "complete dictionary of the terms used in medicine, surgery, dentistry, pharmacy, chemistry, nursing, veterinary science, biology, medical biography and so on, with the pronunciation, derivation and definition." The latest edition, the twenty-first of this famous standard volume, has been much improved by the deletion of many drugs which are no longer used or recommended. Definitions in the newer advances in medicine and related sciences have been furnished or revised in the light of newer knowledge. The book is well printed, indexed and illustrated.

Train Your Hearing

By Mary Wood Whitehurst.—Volta Bureau, 1947. \$3.00.

This is a book written by a teacher who helped the Army veterans at Hoff General Hospital, Santa Barbara, California, to make the best possible use of their remaining hearing. She gave a series of lessons to develop skill in wearing a hearing aid, caring for it, and using it successfully.

The author has put down these lessons in a step-by-step plan which presents training in listening so clearly and simply that it can be followed successfully at home if a teacher is not available. The need of such instruction has long been felt.

Actions and Uses of Drugs

By Windsor C. Cutting, M.D., Professor of Therapeutics, Stanford University. Stanford Univ. Press. 1946. \$3.00.

This book is a modern, comprehensive summary of drugs; what they do and how they are employed. It is ideal for teaching beginners, especially in nursing.

Physical Medicine in General Practice

Edited by Arthur L. Watkins, M.D.—J. B. Lippincott. 1946. \$5.00.

A worthwhile collection of essays on various aspects of physical therapy as advised by specialists in each field, reprinted from *Clinics*, 1946.

Veterinary Bacteriology

By I. A. Merchant, D.V.M., Ph.D., C.P.H., Professor of Veterinary Bacteriology, Iowa State College, Ames, Iowa.—I.S.C. Press. 1946. 3rd Ed. \$7.00.

A workmanlike, clearly written survey of the field of veterinary bacteriology. Basic information is reviewed for students and for practitioners who have become rusty.

Sex Power in Marriage

By Edwin W. Hirsch, B.S., M.D., formerly on Urological Faculty University of Illinois College of Medicine, Chicago. Research Publications of Chicago. \$3.00.

A urologist interested in problems of sex, sympathetically and helpfully informs the patient how normal sex relations may be obtained. Case histories are appended.

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**Clinical Medicine Wishes You a
HAPPY NEW YEAR!**

MEDICAL NEWS

A.M.A. Medal to Honor General Practitioner

The creation of a midwinter session for the House of Delegates of the American Medical Association and with it a scientific meeting designed particularly for the general practitioner is an action of profound significance to physicians and the public. During recent years the need for increased emphasis on the work of the general practitioner has become most apparent. The establishment of certifying boards in the various specialties has been associated with a tendency to limit the development of general practitioners and also the activities carried on by such physicians in hospitals.

The Board of Trustees of the A.M.A. established a gold medal for a general practitioner who has rendered exceptional service to his community, which will be conferred on a general practitioner at the supplemental session in Cleveland, Jan. 7, 1948. It is designed especially to honor a general practitioner who has served as a family physician and who has in that capacity received the recognition of his community. Nominations may be submitted to the headquarters office of the A.M.A. (535 N. Dearborn St., Chicago, Illinois) by any state medical association, Rotary, Lions, Kiwanis, Chamber of Commerce, women's clubs, community councils, or similar groups.—J.A.M.A., Sept. 13, 1947.

D.D.T. Poisoning

DDT is toxic to all higher animals, but in less degree than some of the arsenical and nicotine insecticides. It is not toxic when applied to the skin in powder form, but it is toxic in solution as it can then be absorbed through the skin. Toxic

symptoms, including muscular tremors, indicate that it is a nerve poison. It is not harmful to human health when used as recommended for control of human or household parasites, but it is dangerous if ingested accidentally. Prolonged exposure of the skin to 2.5-5.0% oil solution is harmful; remove with soap and water. There is no known antidote to DDT poisoning; treatment, following gastric lavage and saline catharsis (in case of ingestion), is entirely supportive.

Metopon for Cancer Pain

(Methyldihydromorphine hydrochloride)

The Rockefeller Foundation and the National Research Council, through its Committee on Drug Addiction, undertook a coordinated program (1929) to study drug addiction and search for a non-addicting analgesic comparable to morphine. Metopon is one of the many compounds made and studied in this coordinated effort.

Chemically Metopon is a morphine derivative; pharmacologically it is qualitatively like morphine even to the properties of tolerance and addiction liability. Its analgesic effectiveness is at least double and its duration of action is about equal to that of morphine; it is nearly devoid of emetic action; tolerance to it appears to develop more slowly and to disappear more quickly and physical dependence builds up more slowly than with morphine; therapeutic analgesic doses produce little or no respiratory depression and much less mental dullness than does morphine; and it is relatively highly effective by oral administration.

Metopon can be obtained, by physicians only, from Sharp & Dohme or Parke, Davis & Co. on a regular of-

(Continued on page 22)

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MEDICAL NEWS

(Continued from page 19)

ficial narcotic order form, which must be accompanied by a signed statement supplying information as to the number of patients to be treated and the diagnosis on each. The drug will be distributed for no other purpose than oral administration for chronic pain relief in cancer cases.

Queries and comments on Metopon may be directed to Dr. Nathan B. Eddy, National Institute of Health, Bethesda 14, Md.

Medical Corps R.O.T.C.

The Surgeon General has announced that Medical Corps ROTC units will be in operation at forty-three approved medical schools during the 1947-1948 academic year. It is hoped that the goal of a unit in every approved medical school will be realized by the beginning of the 1948-1949 academic year.

The program is a procurement objective for the Reserve and Regular Army components of the Medical Department. Several hundred graduates are required on a yearly basis to build up an effective organized reserve corps in the interest of the national security program.

The four years instruction is designed to give the student progressive knowledge of the Army in general and the Medical Department in detail, together with the essentials of the complex problems of military preventive medicine. On satisfactory completion of the program, the young Reserve lieutenant should, on mobilization day, be capable of taking care of himself in the Army and performing the functions of a gen-

eral duty medical officer. Should he, if on active duty, be assigned to a troop unit, he must be given further training.

Medical Corps officers of the Regular Army are detailed to the schools as professors of military science and tactics of the ROTC units.

The medical Department is taking advantage of approved civilian facilities to augment their requirements. Accordingly, forty-three schools have made training available in a residency, a fellowship or on a postgraduate course basis.

The forty-three schools with the specialties indicated may be obtained from the American Medical Association.

A.M.A. Directory Information Card

Preparations are now being made to publish the new, Eighteenth Edition of the *American Medical Directory*.

About November 15, a directory card was mailed to every physician in the United States, its dependencies, and Canada, requesting information to be used in compiling the new Directory. Physicians receiving an information card should fill it out and return it promptly whether or not any change has occurred in any of the points on which information is requested. It is urged that those physicians also fill out the right half of the card, which information will be used exclusively for statistical purposes. Even if a physician has sent in similar information recently, mail the card promptly to insure the accurate listing of his name and address. There is no charge for pub-

(Continued on page 24)

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Each teaspoonful
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MEDICAL NEWS

(Continued from page 22)

lishing the data nor are physicians obligated in any way.

The Directory is one of the most important contributions of the American Medical Association and contains dependable data concerning physicians, hospitals, medical organizations and activities. It provides full information on medical schools, specialization in the fields of medical practice, memberships in special medical societies, tabulation of medical journals and libraries, and, indeed, practically every important fact concerning the medical profession in which anyone might possibly be interested.

Therefore, should any physician fail to receive one of these Directory Information cards by December 1, he should write at once to the Directory Department requesting a duplicate card be mailed.

Diphtheria Menace

The morbidity and the mortality from diphtheria in the United States has declined steadily and rapidly during the past twenty five years. Immunization has been voluntary and, in general, has been haphazard throughout the country. Undoubtedly many American soldiers in Europe have become carriers of virulent diphtheria bacilli, whether or not they have had the disease. Those who have not yet returned will have had the greater exposure and will carry the greater volume of potential infection. Since an immune population is the best prophylaxis against the occurrence of diphtheria epidemics, it is urgent that efforts toward extending immunization against diphtheria be redoubled. The low incidence of diphtheria in the U.S. during recent decades produces a feeling of security which is not warranted since

the large number of susceptibles makes the population particularly vulnerable to the disease.—*New Eng. Med. Jour.*, 234, 202, 1946.

Mild Tincture of Iodine

Tincture of iodine (2 per cent) will now become official in the new U. S. Pharmacopoeia. Its lower iodine content is just as efficient and antiseptic in germicides as its predecessor, (7 per cent tincture) and it does not retard healing due to tissue destruction. Alcohol has been replaced by diluted alcohol providing a satisfactory solvent and one that is considerably less irritating when applied to open wounds.

Dangers from Blood Plasma

Possibilities of disease transmission by the injection of human blood derivative is reemphasized in a recent report from the American Red Cross. The committee on blood and blood derivatives of the American National Red Cross does not advocate the discontinuance of blood plasma but does recommend that all physicians consider carefully the potential danger to the patient in the administration of pooled plasma. Because of the possibilities of disease transmission plasma should be used chiefly for serious emergencies, when the need for it is thoroughly indicated, and when safer agents, such as whole blood or serum albumin, are not available.

First U.S.P. XIII Sheet Supplement

Every purchaser of the new Pharmacopoeia should have a copy of the First U. S. P. XIII Sheet Supplement.

Copies of this Sheet Supplement will be mailed on request from the Pharmacopoeia office to all owners of the U. S. P. XIII. There is no charge, but the number of the Pharmacopoeia should be given.

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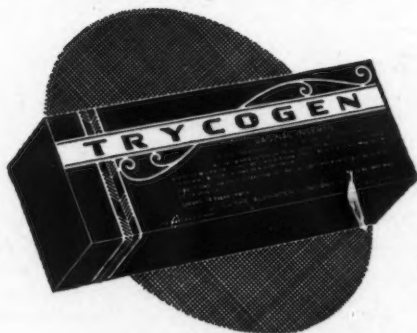
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*Woodhull, Robert B.: "Treatment of *Trichomonas Vaginalis Vaginitis* with Trycogen," *Med. Rec.* 155:474-477 (Oct. 1942).

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Maybe due to anemia; meat shortage
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One doctor diagnosed this "hemic mur-
mur";
Overwork, little eating, too much rum-
ba.

When I hear hot music, I feel in me, ah!
My heart starts jitterbugging, "Tachy-
cardia"
Early morn when clock's striking three,
ah!
My heart slows down, "Bradycardia."

Now if I don't round the curve
Diagnosis: Used up his heart's reserve.
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Doctors prescribe less work and wishing,
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—Raleigh T. Barber, Tampa, Florida



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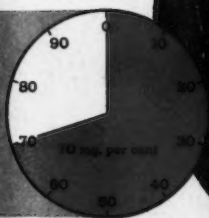
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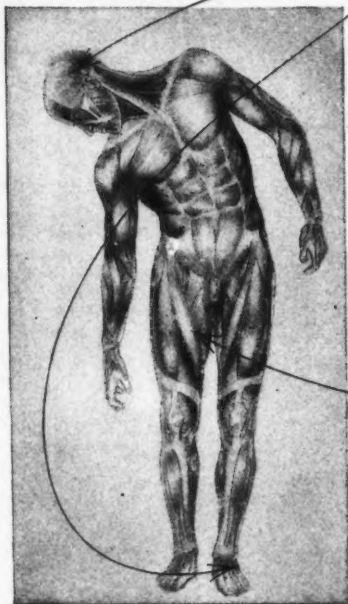
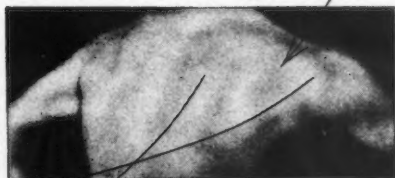
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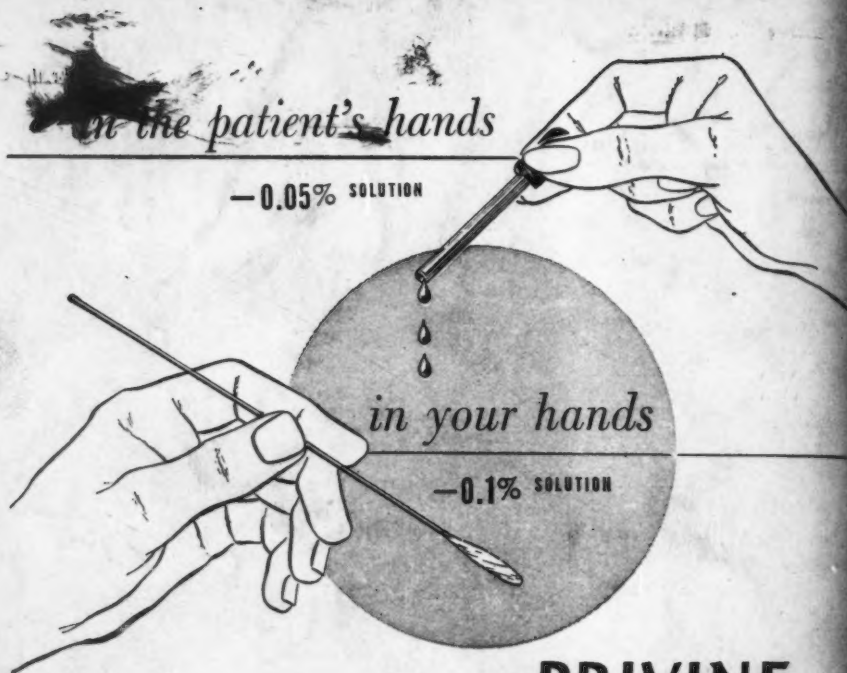
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